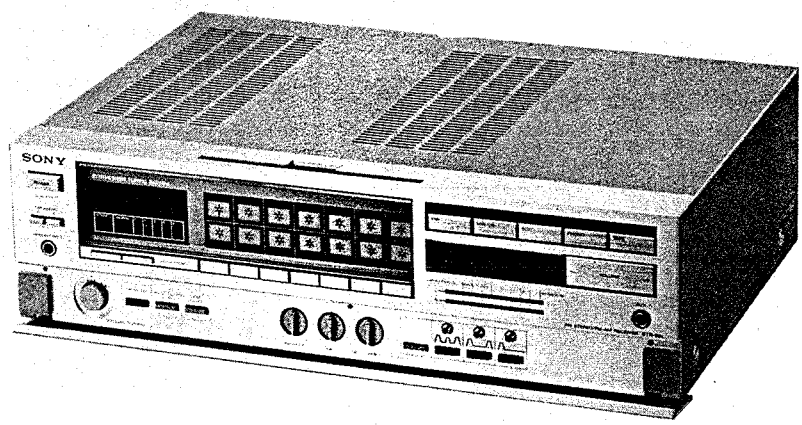
STR-S5L

AEP Model
UK Model



FM/AM STEREO RECEIVER

SPECIFICATIONS

Amplifier section

Continuous RMS power output
(less than 0.05% THD, both channels driven simultaneously)
At 1 kHz
60 + 60 watts (8 ohms)
At 20 Hz - 20 kHz
50 + 50 watts (8 ohms)
According to DIN 45500
50 + 50 watts (8 ohms)
Power bandwidth (IHF) 10 Hz - 40 kHz
Harmonic distortion Less than 0.05% at rated output
Intermodulation (IM) distortion (60 Hz:7 kHz = 4:1)
Less than 0.05% at rated output
Damping factor 50 at 10 kHz, 8 ohms
Dynamic headroom 1.4 dB
Residual noise Less than 250 μV at 8 ohms

Inputs

	Sensitivity	Impedance	S/N	Weighting network
PHONO	2.5 mV	47 k ohms	76 dB	A
TAPE	150 mV	50 k ohms	105 dB	A
AUX	150 mV	50 k ohms	105 dB	A

Outputs

REC OUT	Voltage 150 mV, Impedance 10 k ohms
HEADPHONES	Accepts low impedance headphones
SPEAKERS	8 - 16 ohm speakers are suitable

Frequency response
PHONO : RIAA equalization curve ±0.5 dB
AUX, TAPE : 10 Hz - 100 kHz ±0.5 dB

Tone controls
BASS : ±8 dB at 100 Hz
TREBLE : ±8 dB at 10 kHz
SOUND ENHANCER : +8 dB (80 Hz)
+6 dB (800 Hz)
+8 dB (8 kHz)

— Continued on next page —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

SONY®
SERVICE MANUAL

STR-S5L

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna terminals	300 ohms balanced, 75 ohms unbalanced
Intermediate frequency	10.7 MHz
Sensitivity	at 46 dB quieting 17.3 dBf, 4 μV (mono) 38.3 dBf, 45 μV (stereo)
Usable sensitivity	10.3 dBf, 1.8 μV (IHF) 9.3 dBf, 1.6 μV (S/N 26 dB)
Signal-to-noise ratio	75 dB (mono), 70 dB (stereo)
Harmonic distortion	at 1 kHz 0.15% (mono), 0.3% (stereo)
Separation	45 dB at 1 kHz
Frequency response	40 Hz – 12.5 kHz $^{+0.5}_{-1}$ dB 30 Hz – 15 kHz $^{+0.5}_{-1.5}$ dB
Selectivity	55 dB (300 kHz) 60 dB (400 kHz)
Capture ratio	1.5 dB
AM suppression ratio	54 dB
Image response ratio	80 dB
IF response ratio	100 dB
Spurious response ratio	80 dB
RF intermodulation	60 dB
Auto tuning level	19.2 dBf

AM tuner section

	MW	LW
Tuning range	522 kHz – 1602 kHz	150 kHz –350 kHz
Antenna built-in antenna	provided	provided
external antenna terminal	provided	provided
Intermediate frequency	450 kHz	450 kHz
Usable sensitivity built-in antenna	50 dB/m (1,000 kHz)	60 dB/m (230 kHz)
external antenna	100 μV (1,000 kHz)	100 μV (230 kHz)
Signal-to-noise ratio (at 50 mV/m)	52 dB	52 dB
Harmonic distortion (at 50 mV/m, 400 Hz)	0.3%	0.3%
Selectivity	35 dB (9 kHz)	35 dB (9 kHz)

General

System	Superheterodyne FM/AM tuner, pure-complementary SEPP
Power requirements	AEP model: 220 V ac, 50/60 Hz UK model: 240 V ac, 50/60 Hz
Power consumption	AEP model: 120 watts UK model: 320 watts
AC outlets	2 switched total 100 W
Dimensions	Approx. 430 × 130 × 330 mm (w/h/d) (17 × 5⅛ × 13 inches) Including projecting parts and controls
Weight	Approx. 9.3 kg (20 lb 9 oz), net Approx. 11.5 kg (25 lb 6 oz) in shipping carton

Handling Precautions for MOS ICs

Generally, the insulation resistance of the oxide layer in MOS IC structures is very high, and the oxide layer is very thin. Because of this, it is possible that the static voltages usually present on clothes and the human body will be enough to generate a potential difference across the insulator, high enough to cause a breakdown of the insulating layer.

The following precautions should be taken while handling these ICs.

(Particular care should be taken under conditions of low humidity.)

Precautions in Replacing MOS ICs

1. Store new ICs by inserting them into a urethane-polyester cushion (which is somewhat conductive), or wrapping it in aluminum foil, so that all the pins are at the same potential.
   (The ICs should be stored in that manner until mounted on the circuit board.)

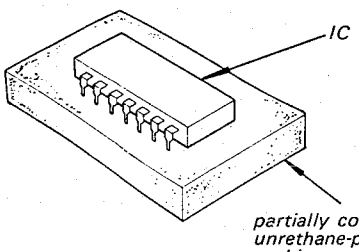


Fig. A

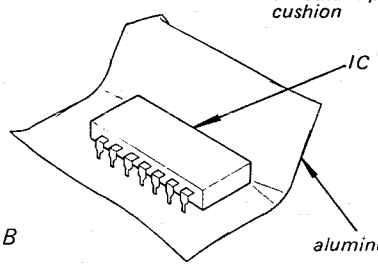


Fig. B

2. Check the soldering iron for possible power-line leakage current. Make sure that there is no leakage path by connecting an ohmmeter to the tip of the soldering iron and the plug as shown in Fig. C. If there is a leakage path, use some other soldering iron.

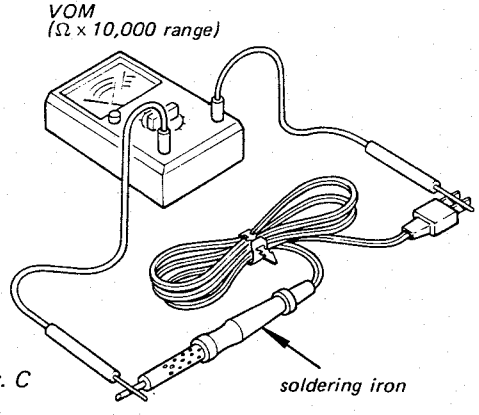


Fig. C

3. Equalize any potential difference between the clothes, the tools in use, the work bench, the set being worked on, and the packaged IC by touching them all in succession with the hands or a conductive wire or tool.
4. The following are effective methods for handling ICs that remove the potential difference across the oxide layer.
   - Use a paper clip modified by soldering in a wire braid insert.

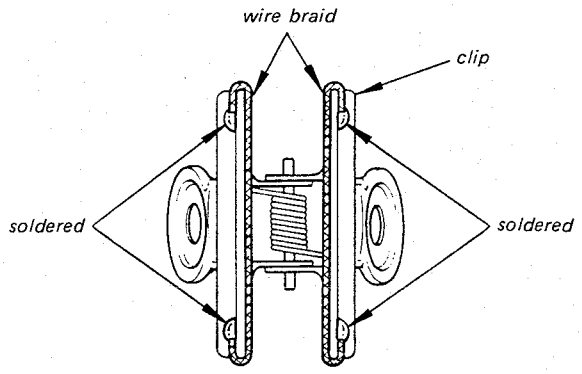


Fig. D Make sure that there is no solder on the inside.

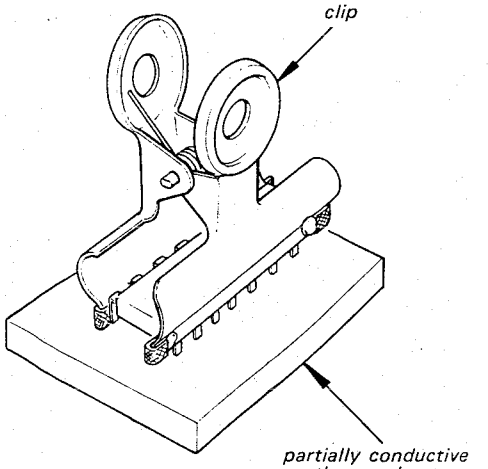


Fig. E

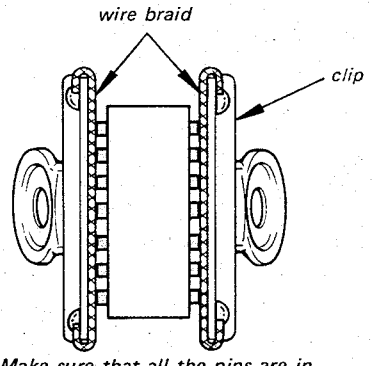


Fig. F Make sure that all the pins are in contact with the wire braid (all the pins will then be at the same potential.).

- Take a short length of fine bare wire and wind it around the IC so that it shorts all the pins of the IC, while it is still in the urethane-polyester cushion or aluminum foil. This ensures that all the pins are at the same potential.

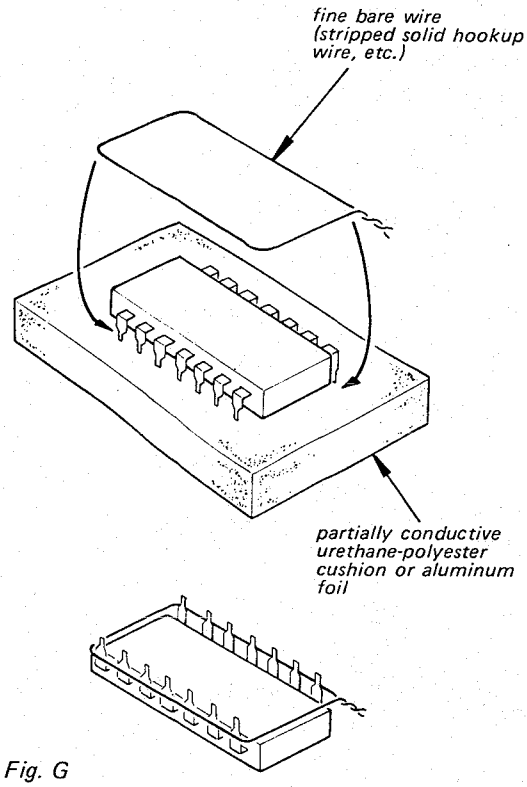


Fig. G

- When it is necessary to handle the IC with the fingers, do not touch any pin, and hold the IC at the ends of its plastic-package case as shown in Fig. H.

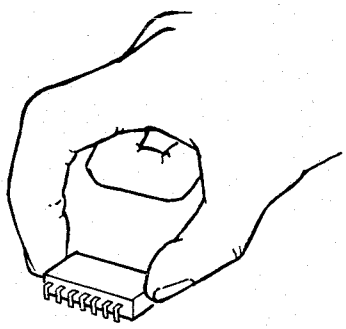


Fig. H

5. Method of Mounting
Insert the IC while holding it with the modified clip, and solder all the pins with the clip still shorting the pins. (Similarly, solder all the pins while the bare shorting wire is still wound around them.). Remove the clip or the bare shorting wire only after all the pins have been soldered.

Precaution while Checking C-MOS ICs

The C-MOS ICs (Complementary MOS) are MOS ICs that have their output sections made up of N-channel and P-channel push-pull stages to increase their speed of operation. If the output terminal of these ICs comes into contact with B+ or B– voltage, then the FET which is ON at that time will either become shorted or open.

This is valid for all the output sections that are connected together by the interconnections. Even the circuits that are physically separated (and not on the same board) can be destroyed simultaneously.

Example:

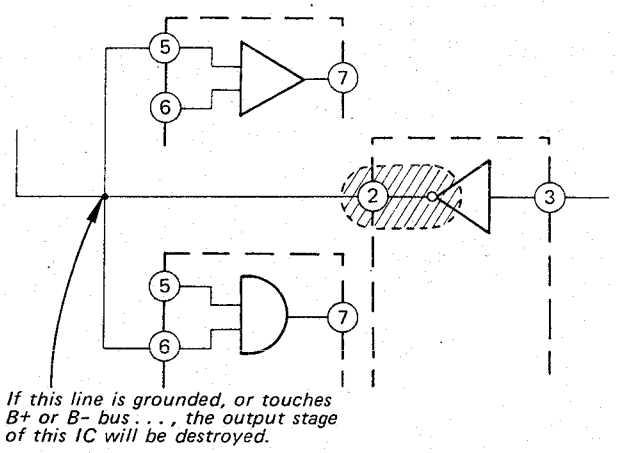


Fig. I

SECTION 1
OUTLINE

1-1. CIRCUIT DESCRIPTION

[SOUND ENHANCER]

Figure A shows an amplifier from the operation amp. Its gain is determined by NF resistors (R1, R2) and the gain of the operation amp. Therefore, if frequency response is given to R1 and R2, the amp response can be freely formed.

The sound enhancer circuit of this model makes 3 kinds of responses by inserting a resonance circuit parallel to R2 by a switch.

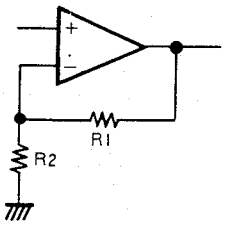


Fig. A

Figure B shows the resonance circuit diagram. The section within the dotted line performs the same task as a coil and, with C609, forms the series resonance circuit. Following is the explanation of the section of the circuit within the dotted line.

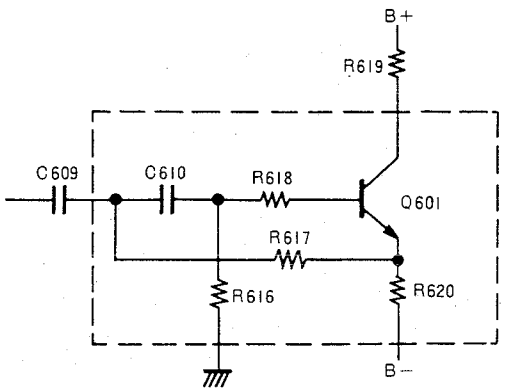


Fig. B

In Figure C, by raising the voltage at (A), charging current i_2 flows to C2 and i_3 also flows. When i_3 flows, the potential at (B) rises, so the potential at (A) is also pushed up by this. At this time the current i_1 flowing from the power applied to (A) is very small, and i_2 is supplied almost totally as a result of the rise in voltage at (B).

However, the charging current i_2 decreases as time elapses. Consequently, since potential at (B) also drops, i_1 becomes i_4 and increases as time elapses. By lowering the potential at (A), the directions of current and voltage reverse and thus operation also reverses. Therefore, by applying ac to point (A) in this circuit, the phase of i_1 lags the voltage by 90°.

This is because this circuit performs the same job as a coil. Q is determined by the hfe, etc., of R2, R3, R4, Q1. This circuit is called active filter, and is often used in graphic equalizers.

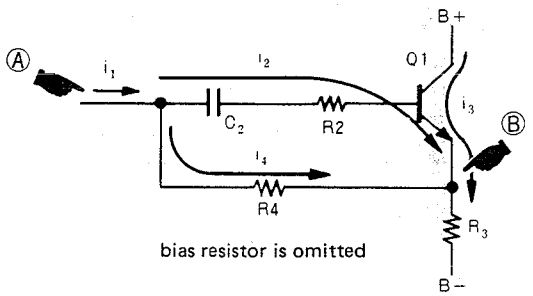


Fig. C

[POWER AMP]

Collector Follower Output Circuit

The output stage of the power amp is usually an emitter follower, but in this model it is a collector follower. This is because the output circuit of the driver IC is SEPP, and the output transistor is driven by this collector. Figure D is a simplified illustration of this circuit. Q604, 605 are included to drive high voltage output stages (maximum rated power voltage for IC602 is 20V, ±40V). This is also favorable to reducing distortion.

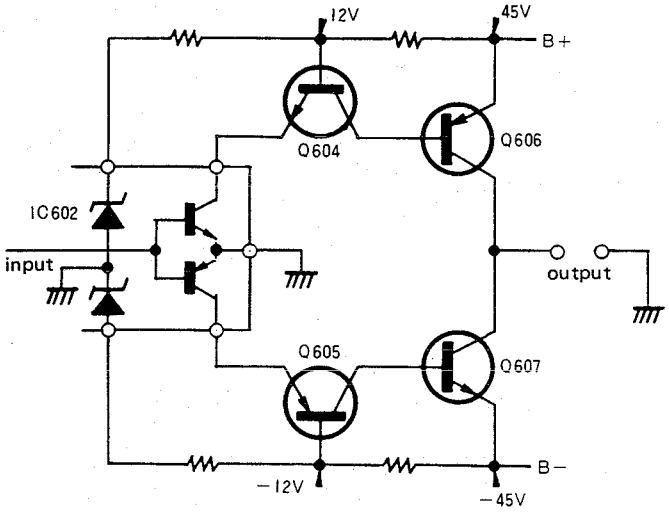


Fig. D

Protector Circuit

In a circuit like the one shown in Figure E, by increasing the flow of the base current i_1, even if the transistor is saturated, i_1 will increase without limit. (In a conventional emitter follower output circuit, the emitter potential rises and this does not occur.) In this model, as shown in Figure F, a diode is inserted to limit the base current before the transistor is saturated.

When this circuit is operating, in other words, when i_1' is flowing, base potential at Ⓐ is 1.8V. This 1.8V is a result of the voltage of 0.6V between the base and emitter of the transistor and forward direction voltage of 1.2V at the 2 silicon diodes. By increasing i_1', the potential at Ⓑ drops to 1.2V. i_1' cannot be increased any further; if it is tried, i_2 will flow. By limiting i_1' in this way, the transistor is protected. Also, this circuit has a favorable effect on distortion resulting from clipping.

Legato Linear Circuit

Usually, in a class-B amp, switching distortion is generated when the positive half cycle and negative half cycle of the signal switch. This occurs each time the output transistor cuts off. In order to remove this distortion, therefore, this transistor must be used so that it does not cut off. Figure G is the output circuit of this set. This circuit operates so that R647 and C623 do not cut off Q606 and Q607. This is an input signal, but during the positive half cycle, it results from i_1 flowing to the base of Q606 and during the negative half cycle, from i_2 flowing to the base of Q607.

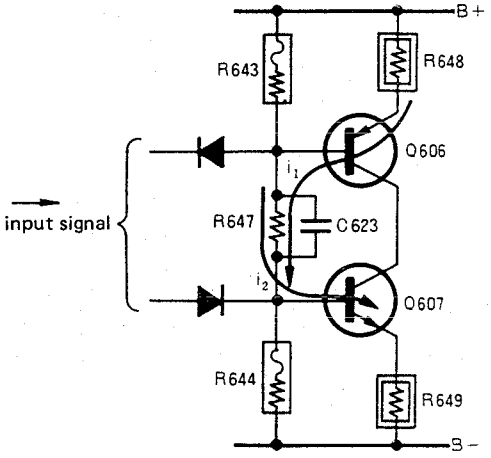


Fig. G

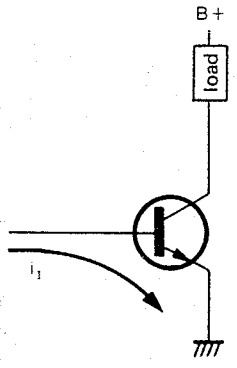


Fig. E

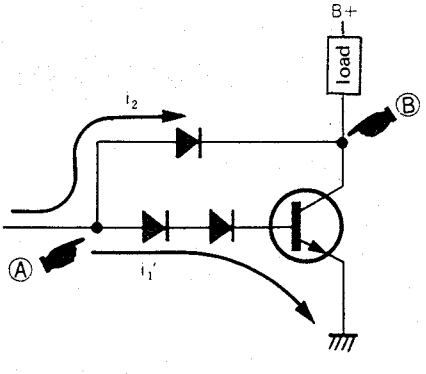


Fig. F

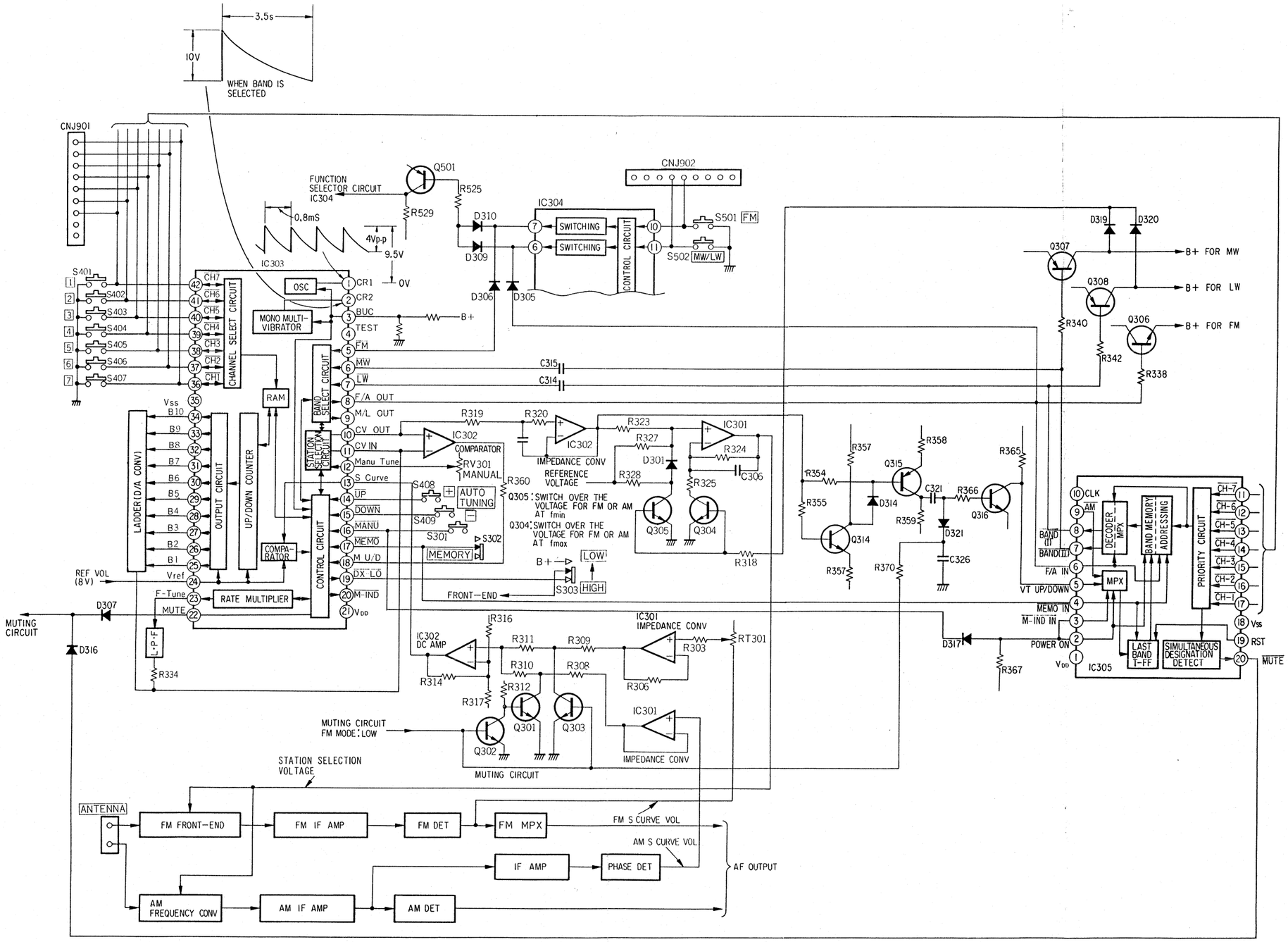
FUNCTIONS OF IC303 TERMINALS

Pin No.	Pin Name	Input/Output	Function
1	CR_1	Input/Output	· Generates LSI system basic clock signal by connecting to CR time constant circuit and forming oscillator circuit. (oscillation period: 0.8 msec)
2	CR_2	Input/Output	· Forms timer circuit by connecting with CR time constant circuit. · Determines pulse width, etc. of MUTE output signal during band switching. (operation time: 0.5 sec)
3	BUC	Input	· Back-up control terminal; is in back-up state at low level.
4	TEST	Input	· TEST terminal of LSI internal circuit. – In TEST state at high level.
5	$\overline{FM}$	Input	– FM band input terminal. – At low, achieves FM reception state and maintains it even if it later goes high. (Holds at low for more than 5 msec.)
6	$\overline{MW}$	Input	– MW band input terminal. – At low, achieves MW reception state and maintains it even if it later goes high. (Holds at low for more than 5 msec.)
7	$\overline{LW}$	Input	– LW band input terminal. – At low, achieves LW reception state and maintains it even if it later goes high. (Holds at low for more than 5 msec.)
8	F/A OUT	Output	– Outputs control signal which indicates band reception state. – FM band . . . . . high – AM band . . . . . low (MW/LW)
9	M/L OUT	Output	– Outputs control signal which indicates band reception state. – MW band . . . . . high – LW band . . . . . low – Not used in this model.
10	CV OUT	Output	– Output of analog signal transfer gate; outputs varactor impressed voltage.
11	CV IN	Input	– Input of analog signal transfer gate; inputs ladder output voltage.
12	Manu Tune	Input	– Input of analog signal transfer gate; inputs tuning voltage generated by variable resistor.
13	S-Curve	Input	– Inputs S-Curve voltage of FM, AM. – Input of LSI comparator; inputs control signal for AFC operation.
14	$\overline{UP}$	Input	– Auto search station selection input terminal. – Starts UP search at low, stops when S-Curve voltage is applied to S-Curve terminal and after AFC operation. – When UP search is indicated, holds at low for more than 5 msec. – When low level is maintained during UP search, search continues even when S-Curve voltage is applied to S-Curve terminal.
15	$\overline{DOWN}$	Input	– Auto search station selection input terminal. – Starts DOWN search at low, stops when S-Curve voltage is applied to S-Curve terminal and after AFC operation. – When DOWN search is indicated, holds at low for more than 5 msec. – When low level is maintained during DOWN search, search continues even when S-Curve voltage is applied to S-Curve terminal.
16	$\overline{MANU}$	Input	– Manual station selection input terminal. – Achieves manual station selection state at low, enabling manual station selection. – Manual station selection state is cancelled when any one of the $\overline{UP}$, $\overline{DOWN}$ or channel input terminals goes low.
17	$\overline{MEMO}$	Input	– Preset memory input terminal. – Enables memory while it is holding at low.
18	M-U/D	Input	– The external comparator output signal which forms the A/D converter during manual mode is applied. – At high, counts up 10 bits data and ladder output voltage rises. – At low, counts down 10 bits data and ladder output voltage decreases.
19	$\overline{DX\text{-}LO}$	Output	– Output terminal which controls radio sensitivity during auto search. – At low only during search; usually at high.

Pin No.	Pin Name	Input/Output	Function
20	$\overline{\text{M-IND}}$	Output	– Signal output which indicates manual station selection state. – N channel open drain output form (at low during manual station selection). – Not used in this model.
21	V_{DD}	–	– LSI power supply; During operation: +9V; Back-up: +5V
22	MUTE	Output	– Output terminal for control signal which eliminates undesirable noise during station selection. – At high during search, preset station selection and band switching.
23	F-Tune	Output	– Fine tuning output terminal. – Generates voltage for fine tuning by connecting with low pass filter. – Adjusts voltage at mixing resistor and loads it to ladder output voltage. (50% duty signal except during fine tuning: T = 1.5 msec). – Outputs 8 stage pulse modulation signal during fine tuning.
24	Vref	–	– Reference voltage (+8V) for D/A converter, comparator.
25~34	B1–B10	Output	– Output for 10 bit UP/DOWN counter (including ladder buffer). – Performs D/A conversion by connecting ladder resistor.
35	Vss	–	– GND terminal of LSI
36~42	$\overline{\text{CH1}}$–$\overline{\text{CH7}}$	Input/Output	– Channel input terminal. – Output terminal for station reception indication. (including N channel open drain form LED driver.) – At low, memorized station is selected. – When $\overline{\text{MEMO}}$ terminal is at low, and any one of $\overline{\text{CH1}}$–$\overline{\text{CH5}}$ goes low, the station being received is memorized. – Hold at low for station selection or memory for more than 20 msec.

Note: A terminal with bar over its name operates when 0V is applied.
ex: $\overline{FM}$

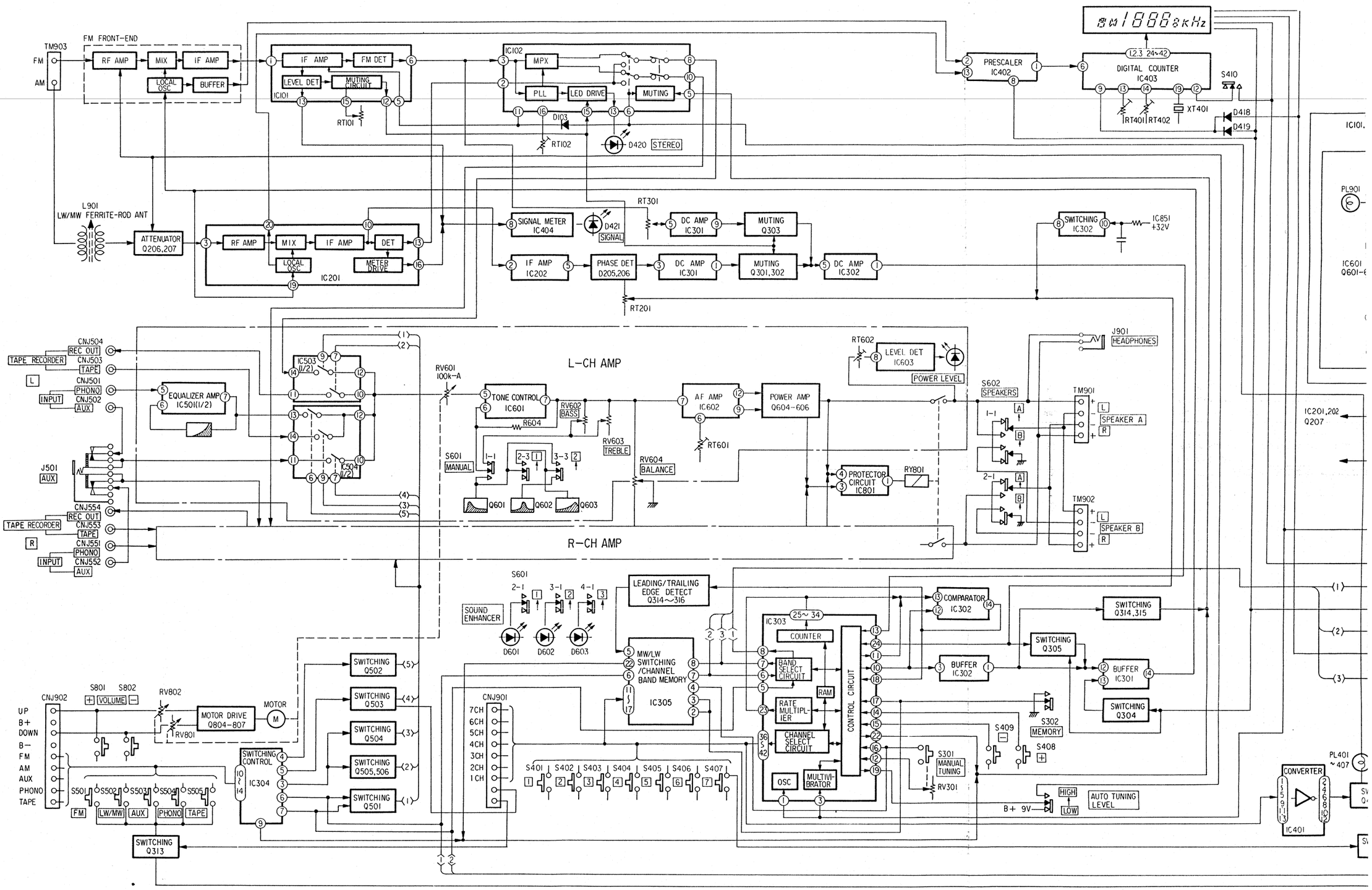
CIRCUIT DIAGRAM AROUND IC303

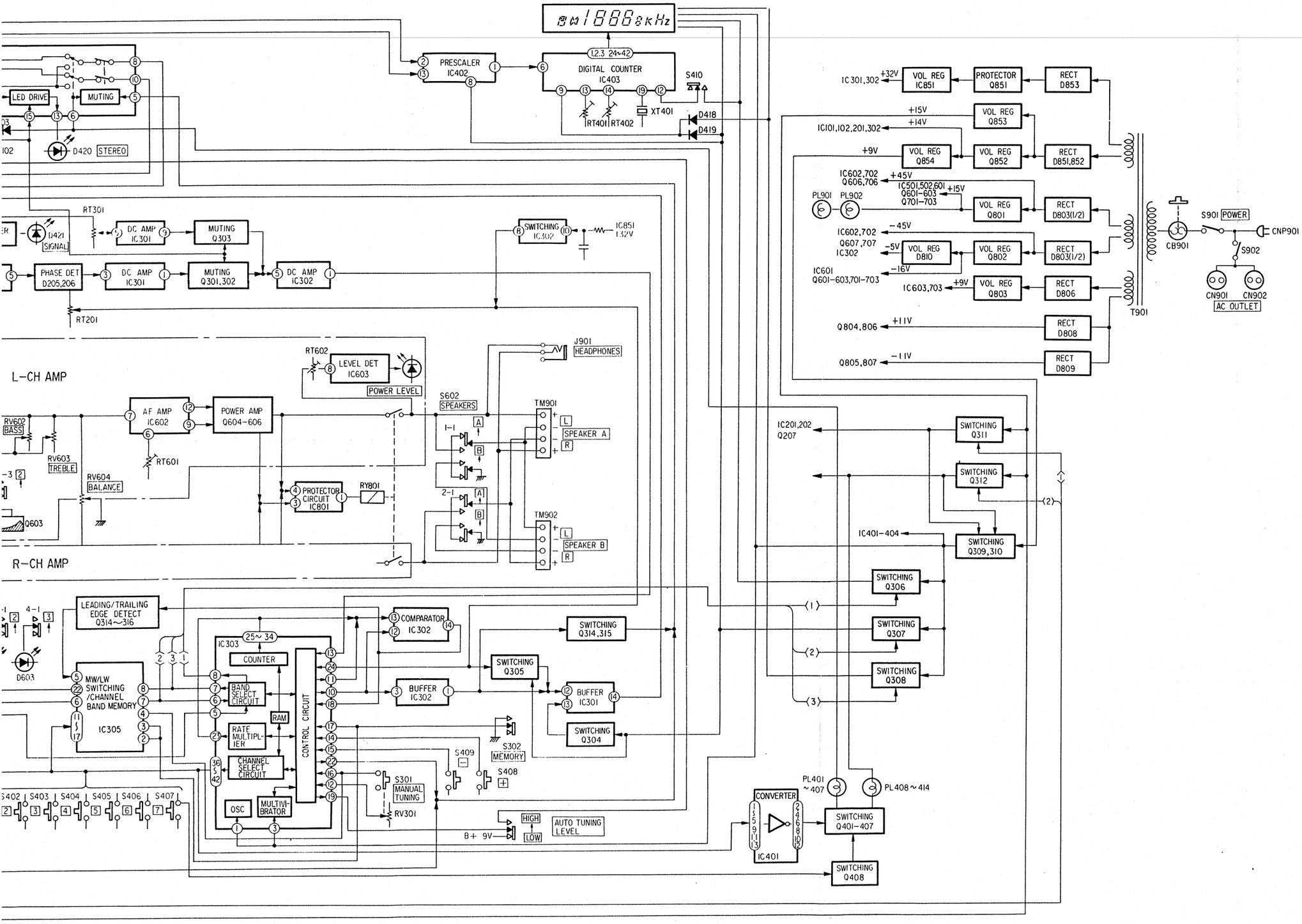


FUNCTIONS OF IC 305 TERMINALS

Pin No	Pin Name	Input Output	Function
1	V_{DD}	–	• B+ power supply
2	POWER -ON	Input	• Achieves back-up state of the internal memory and flip-flop at low level. • Achieves operation state at high level.
3	$\overline{\text{M-IND IN}}$	Input	• When low level is maintained in band division state (F/A IN: low level), enables alternate designation of the band with $\overline{\text{AM}}$ input. • When the terminal $\overline{\text{M-IND IN}}$ and $\overline{\text{CH1}}$ ~ $\overline{\text{CH7}}$ are high level at band division state (F/A IN: low level), enables alternate designation of the band with VT UP/DOWN terminal.
4	$\overline{\text{MEMO IN}}$	Input	• Input terminal of band memory. • When at low, and terminals $\overline{\text{CH1}}$ ~ $\overline{\text{CH7}}$ hold at low for more than 20msec, enables memorization of the band being received (BAND I or $\overline{\text{BAND II}}$). • Employed by connecting in parallel with the terminal $\overline{\text{MEMO}}$ of IC 303 (LC7207).
5	VT UP/DOWN	Input	• Input terminal which designates the band (BAND I/BAND II) alternately by receiving the leading or trailing differentiation signal of automatic search sweep voltage (UP SEARCH).
6	F/A IN	Input	• Employed by connecting to the terminal F/A OUT of IC 303 (LC7207). • At low level, achieves the band division state.
7	$\overline{\text{BAND(II)}}$	Output	• At low level, designates the band II. • When the terminal (F/A IN is at high level, achieves the band division state (low level or high level).
8	$\overline{\text{BAND(I)}}$	Output	• At low level, designates the band I. • When the terminal $\overline{\text{AM}}$ is low, achieves the band division state (low or high). When the terminal F/A IN is high level, the output of this terminal becomes in high level.
9	$\overline{\text{AM}}$	Input	• When the terminal $\overline{\text{M-IND IN}}$ is low at band division state (F/A IN: low level), becomes the input which designates the toggle operation of bands (BAND I/BAND II) (chatter time: 6 ~ 12 msec) • At low level, either the terminal $\overline{\text{BAND I}}$ or $\overline{\text{BAND II}}$ goes simultaneously low. • Not used in this model.
10	CLK	Input	• Employed by connecting in parallel with the terminal CR1 or IC303 (LC7207). • Input for LC7000 system clock.
11 ≀ 17	$\overline{\text{CH1}}$~$\overline{\text{CH7}}$	Input	• Employed by connecting in parallel with terminals $\overline{\text{CH1}}$ ~ $\overline{\text{CH7}}$ of IC 303 (at low level, channel band designation is performed). • Input terminal of band designation (BAND I/BAND II) of each channel ($\overline{\text{CH1}}$ ~ $\overline{\text{CH7}}$). • Priority during simultaneous designations.
18	Vss	–	• B- power supply
19	RST	Input	• When this terminal goes high, internal memory and flip-flop are reset.
20	$\overline{\text{MUTE}}$	Output	• Outputs the muting signal (high level) when depressing simultaneously the channel switch ($\overline{\text{CH1}}$ ~ $\overline{\text{CH7}}$).

1-2. BLOCK DIAGRAM



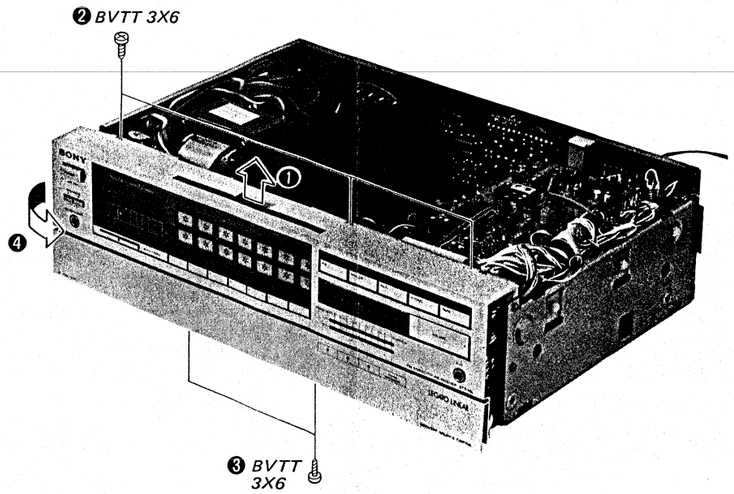

MW 1888 kHz
PRESCALER IC402
DIGITAL COUNTER IC403
1,2,3 24-42
S410
XT401
RT401 RT402
D418
D419
LED DRIVE
MUTING
D420 STEREO
RT301
D421 SIGNAL
DC AMP IC301
MUTING Q303
PHASE DET D205,206
DC AMP IC301
MUTING Q301,302
DC AMP IC302
SWITCHING IC302
IC851 +32V
RT201
L-CH AMP
RT602
LEVEL DET IC603
POWER LEVEL
J901 HEADPHONES
AF AMP IC602
POWER AMP Q604-606
S602 SPEAKERS
TM901
SPEAKER A
TM902
SPEAKER B
RV602 BASS
RV603 TREBLE
RV604 BALANCE
RT601
Q603
PROTECTOR CIRCUIT IC801
RY801
R-CH AMP
IC301,302 +32V
VOL REG IC851
PROTECTOR Q851
RECT D853
+15V
+14V
IC101,102,201,302
VOL REG Q853
+9V
VOL REG Q854
VOL REG Q852
RECT D851,852
IC602,702 Q606,706 +45V
IC501,502,601 Q601-603 Q701-703 +15V
VOL REG Q801
RECT D803(1/2)
PL901 PL902
-45V
IC602,702 Q607,707 IC302
-5V
VOL REG D810
VOL REG Q802
RECT D803(1/2)
-16V
IC601 Q601-603,701-703
+9V
IC603,703
VOL REG Q803
RECT D806
+11V
Q804,806
RECT D808
-11V
Q805,807
RECT D809
T901
CB901
S901 POWER
CNP901
S902
CN901 CN902
AC OUTLET
IC201,202 Q207
SWITCHING Q311
SWITCHING Q312
IC401-404
SWITCHING Q309,310
SWITCHING Q306
SWITCHING Q307
SWITCHING Q308
LEADING/TRAILING EDGE DETECT Q314~316
D603
MW/LW SWITCHING /CHANNEL BAND MEMORY
IC305
IC303
25~34
COUNTER
BAND SELECT CIRCUIT
RAM
RATE MULTIPLIER
CHANNEL SELECT CIRCUIT
CONTROL CIRCUIT
OSC
MULTIVIBRATOR
COMPARATOR IC302
BUFFER IC302
SWITCHING Q314,315
SWITCHING Q305
BUFFER IC301
SWITCHING Q304
S409
S408
S302 MEMORY
S301 MANUAL TUNING
RV301
B+ 9V
HIGH
LOW
AUTO TUNING LEVEL
S402 S403 S404 S405 S406 S407
PL401 ~407
PL408 ~414
CONVERTER
IC401
SWITCHING Q401-407
SWITCHING Q408

SECTION 2
DISASSEMBLY

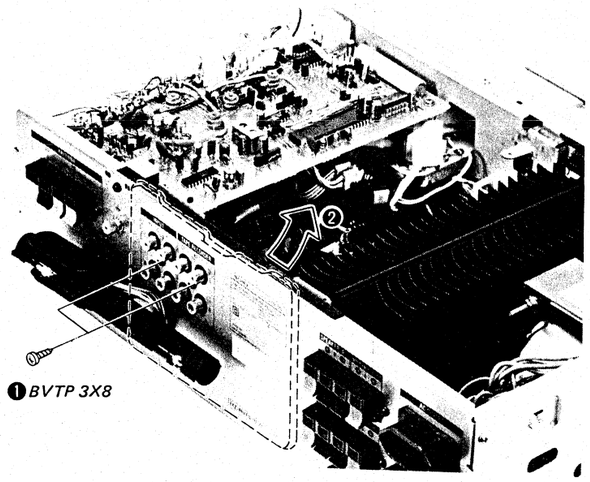
Note: Follow the disassembly procedure in the numerical order given.

TOP COVER REMOVAL: Remove the four screws.

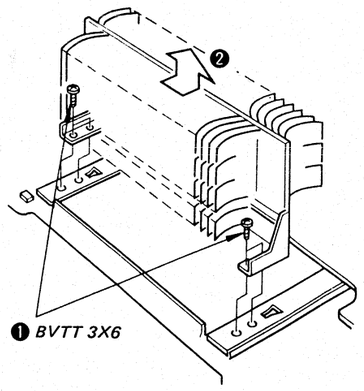
FRONT PANEL REMOVAL



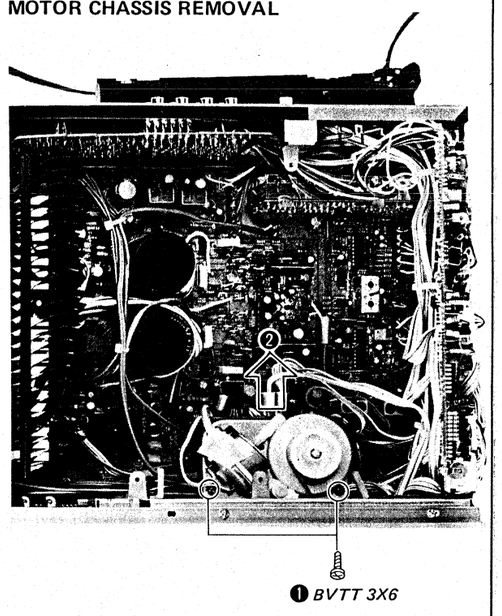
EQUALIZER BOARD REMOVAL



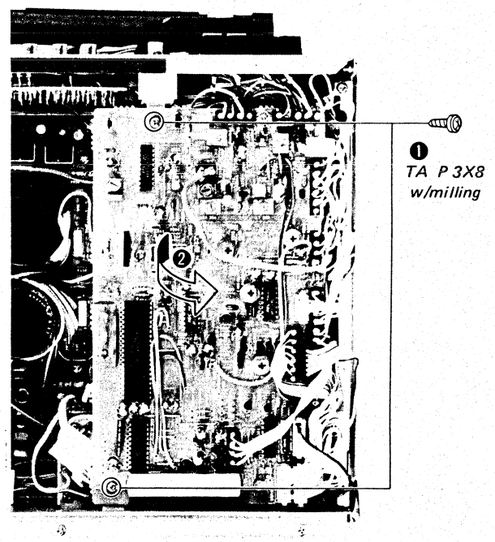
HEAT SINK REMOVAL



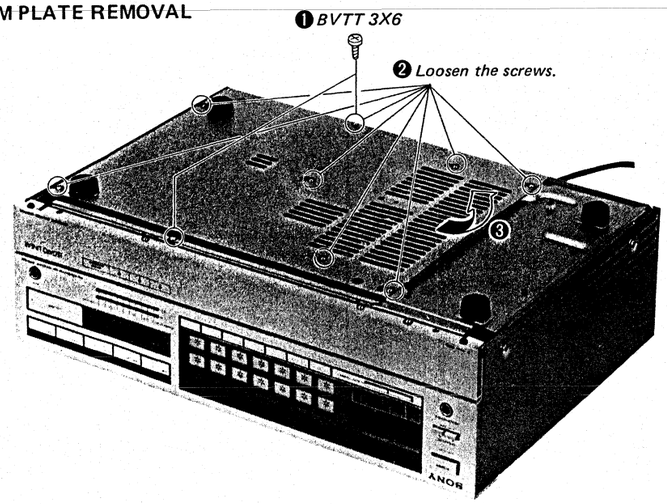
MOTOR CHASSIS REMOVAL



CONTROL BOARD REMOVAL

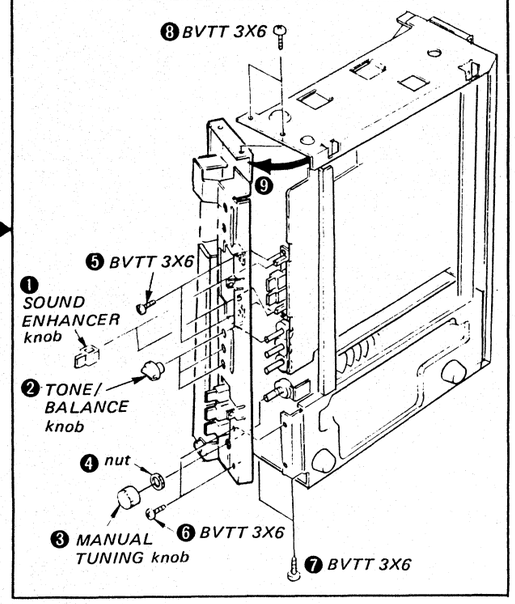


BOTTOM PLATE REMOVAL

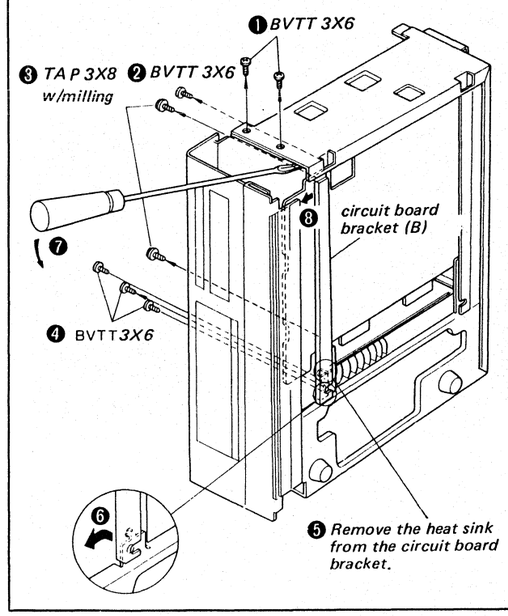


SUB-PANEL REMOVAL

The main board can be checked in this condition.

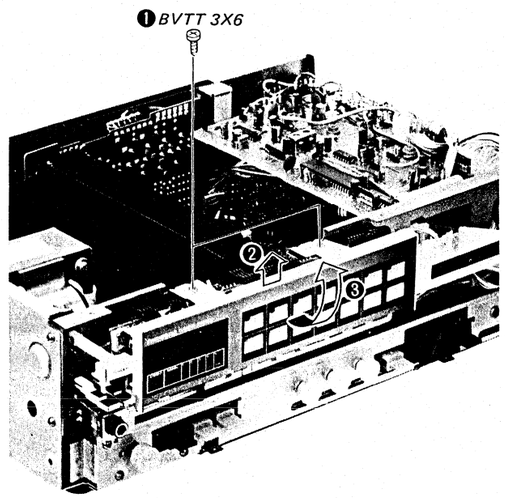


CIRCUIT BOARD BRACKET (B) REMOVAL

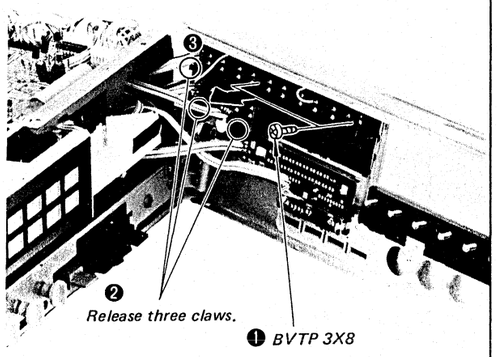


STR-S5L

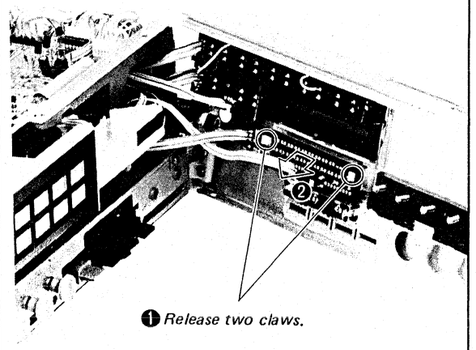
DISPLAY BOARD (A) REMOVAL



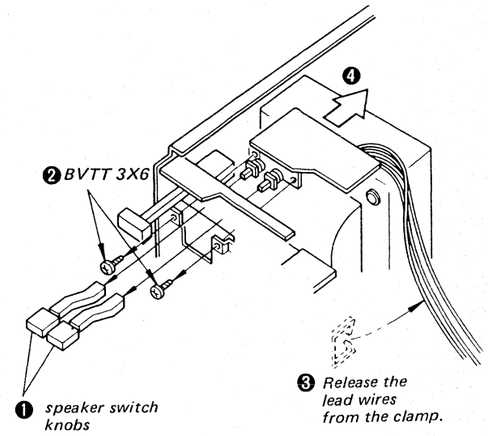
FUNCTION BOARD REMOVAL



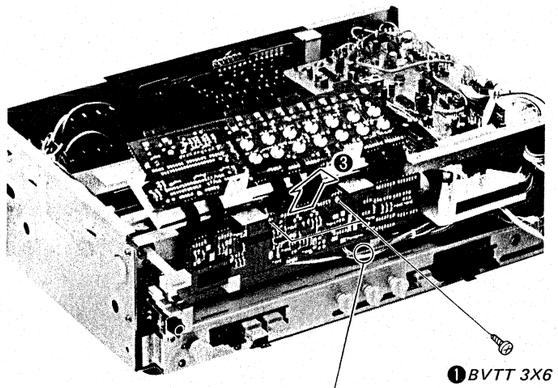
LEVEL METER BOARD REMOVAL



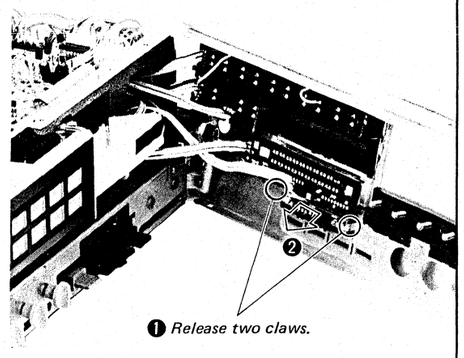
SPEAKER SWITCH (W) BOARD REMOVAL



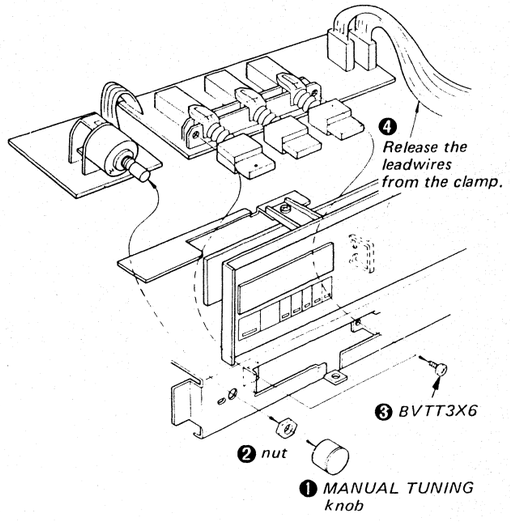
DISPLAY BOARD (B) REMOVAL



LED BOARD REMOVAL

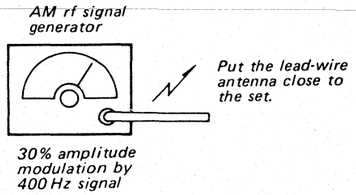


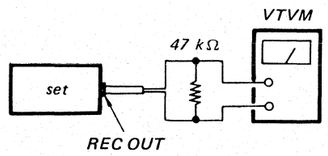
KEYBOARD-SWITCH BOARD/ TUNING CONTROL BOARD REMOVAL



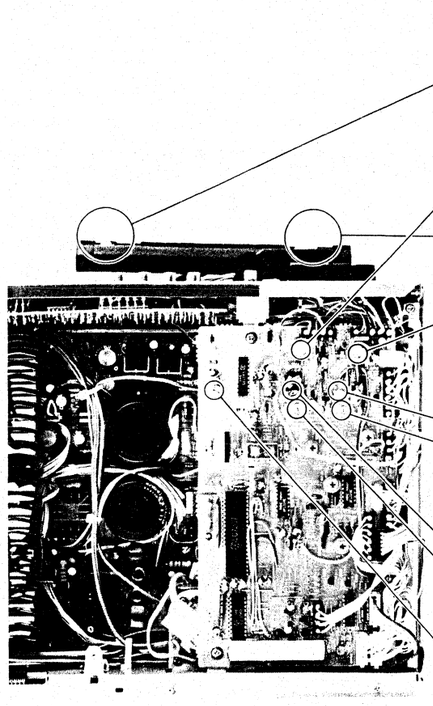
SECTION 3
ADJUSTMENTS

AM SECTION





- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



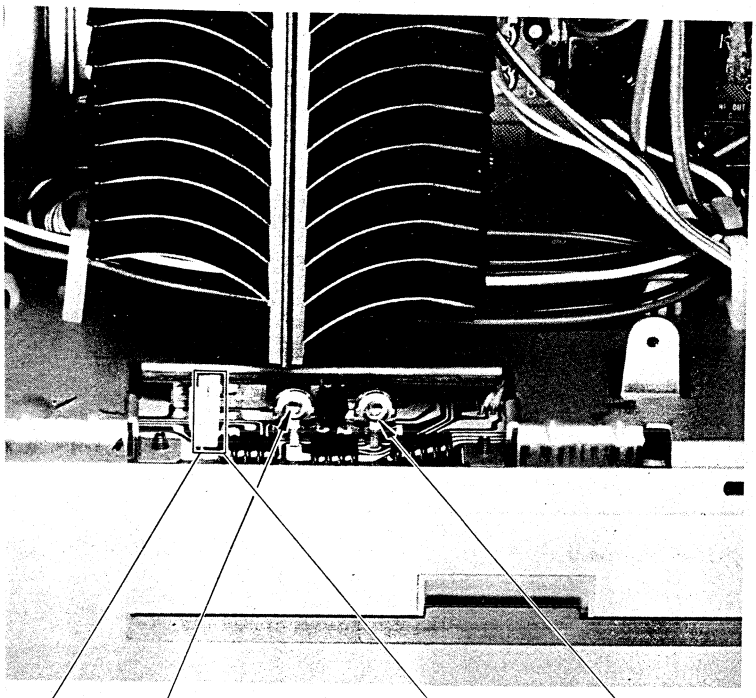
MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L901	600kHz
CT202	1,400kHz

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L901	170kHz
CT201	310kHz

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T201	145kHz
CT203	365kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM	
T202	515kHz
CT204	1,660kHz

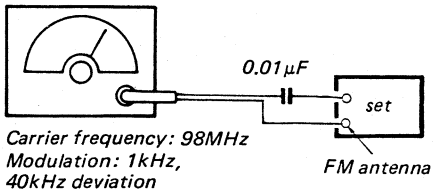
T203	450kHz
Adjust for a maximum reading on VTVM	
IF ALIGNMENT	



FM IF Offset Adjustment

1. Tune the set to 98MHz manually.
2. Set S410 to ON.
3. Adjust RT401 so that the last digit continues to light up when 98.0MHz is indicated on the frequency display.
4. Set S410 to OFF.

FM rf signal generator



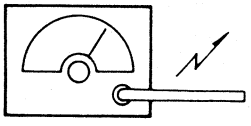
Carrier frequency: 98MHz
Modulation: 1kHz,
40kHz deviation

AM IF Offset Adjustment

BAND: MW

1. Tune the set to 1,000kHz.
2. Set S410 to ON.
3. Adjust RT402 so that the last digit continues to light up when 1,000kHz is indicated on the frequency display.
4. Set S410 to OFF.

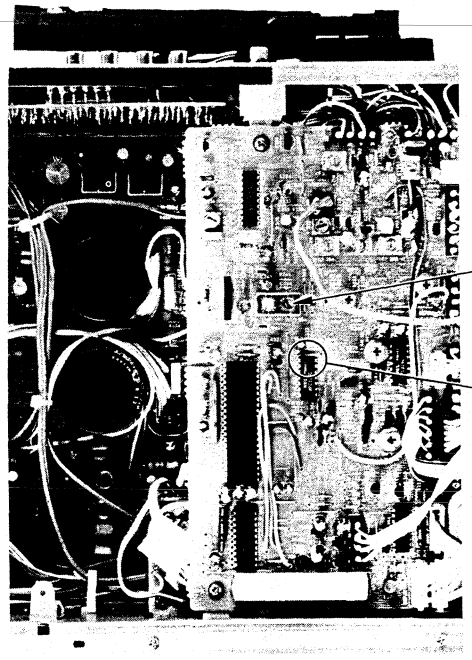
AM rf signal generator



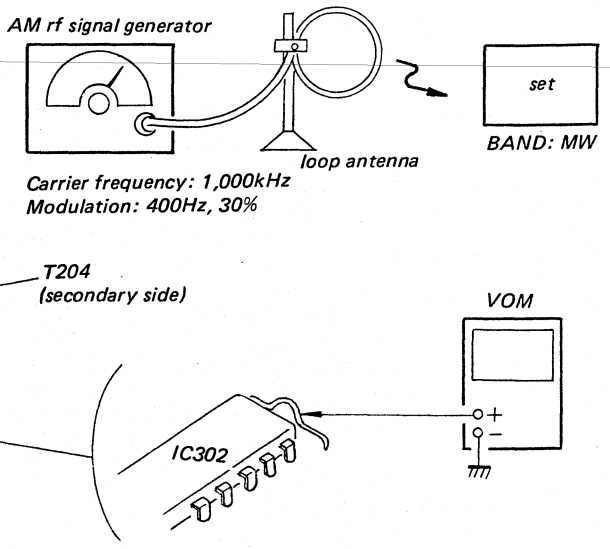
Put the lead-wire antenna close to the set.

30% amplitude modulation by 400Hz signal

* After one offset adjustment (FM or AM) is completed, turn S410 off again and perform the other.



AM S Curve Adjustment



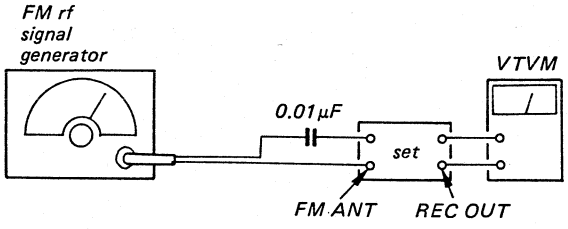
Procedure:

1. Set the output level of the signal generator to 64 ~ 74 dB.
2. Adjust T204 for 4.75 ± 0.25V reading on the VOM.

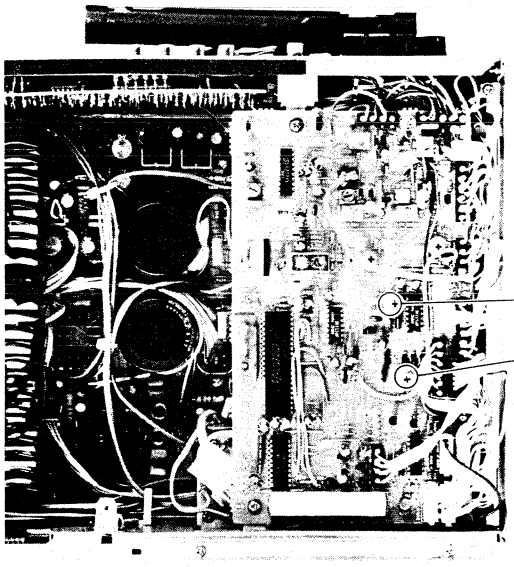
Note: The primary side of T204 has been adjusted at the factory, so the adjustment is unnecessary in this field.

FM SECTION

- The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.
- Refer to page 21 for FM IF Offset Adjustment.



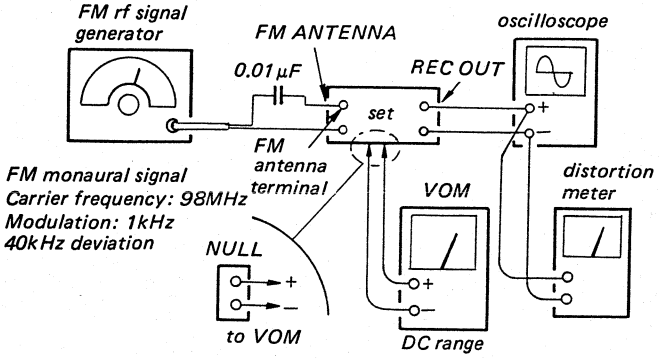
Modulation: 400Hz, 40kHz deviation



FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
RT303	108.0MHz
RT302	87.5MHz

FM Discriminator Adjustment

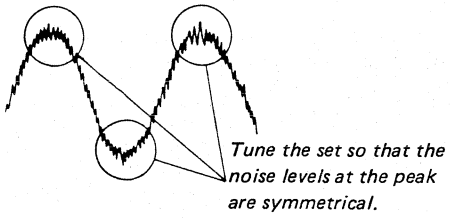
Setting:



NULL Adjustment

Procedure:

1. Tune the set so that the noise levels become symmetrical as shown on the right. (output level of the signal generator: 5 ~ 10 dB).
2. Adjust the secondary side core (black) of T101 for the minimum reading on the VOM.
3. Adjust the primary side core (red) of T101 for 0V reading on the VOM.
4. If the noise levels are not symmetrical after adjustment in step 3, repeat the steps 1 ~ 3.



Distortion Adjustment

Procedure:

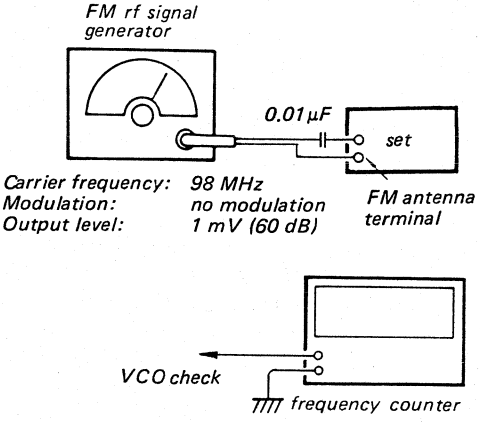
Adjust the secondary side core (black) of T101 for the minimum distortion. (output level of the signal generator: 60dB (1mV)).

Note: Repeat the secondary-side and primary-side adjustments several times.
If 0V reading can not be obtained on the VOM after adjustments, repeat the above steps.

VCO Adjustment

A) Regular Method

Procedure:

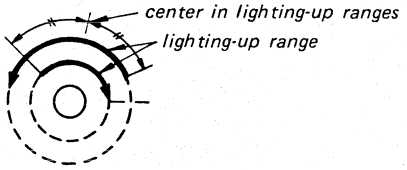


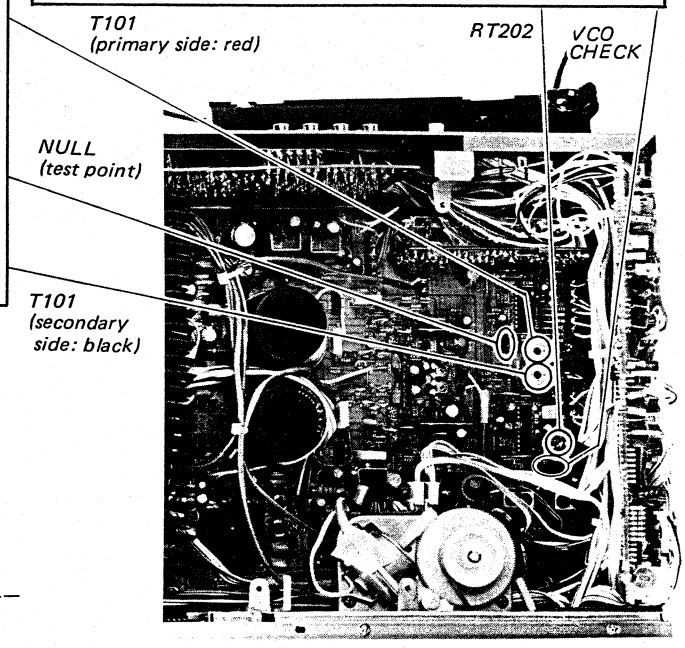
1. Tune the set to 98 MHz.
2. Adjust RT202 for 19 kHz ±50 Hz on the counter.

B) Simple Method

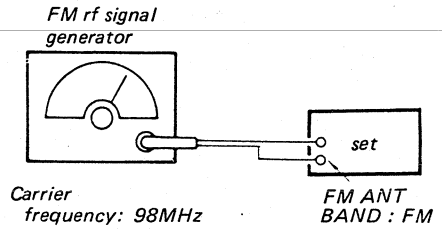
Procedure:

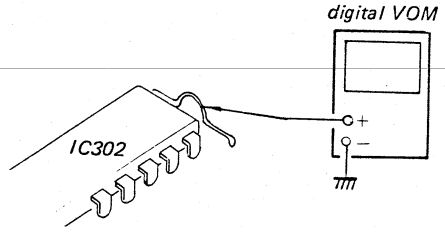
1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT202 clockwise or counterclockwise and memorize the lighting-up range of stereo lamp.
3. Secure RT202 at the center of the lighting-up range of both turns as shown below.



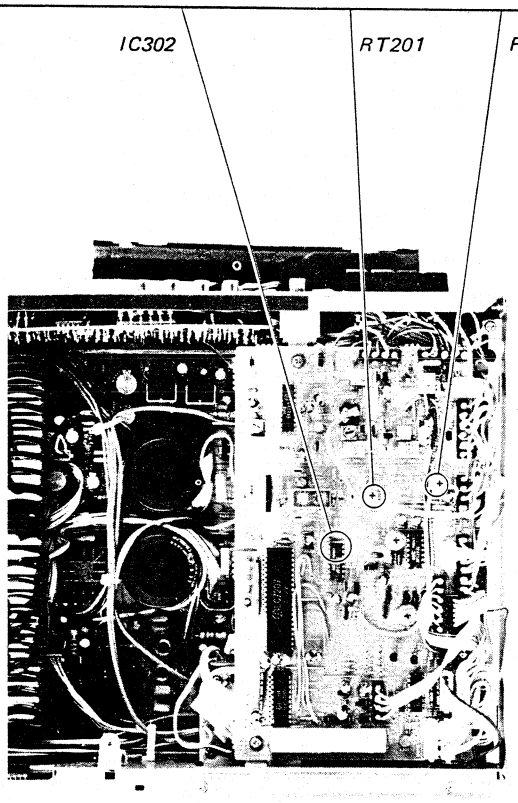


S Curve Standard Voltage Adjustment



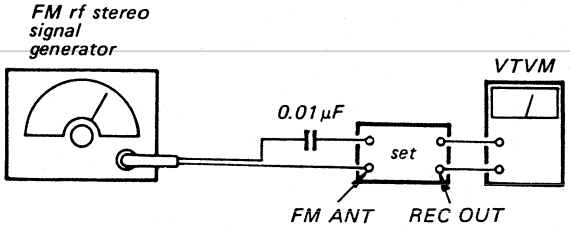


Adjustment	Procedure
RT201	Detune the set and adjust RT201 so that the VOM reading is 4.75±0.05V at the center of the dial scale.
RT301	Output level: 98MHz 60dB Tune the set to 98MHz and adjust RT301 so that the VOM reading is 4.75V±0.25V.



FM Stereo Separation Adjustment

Procedure:

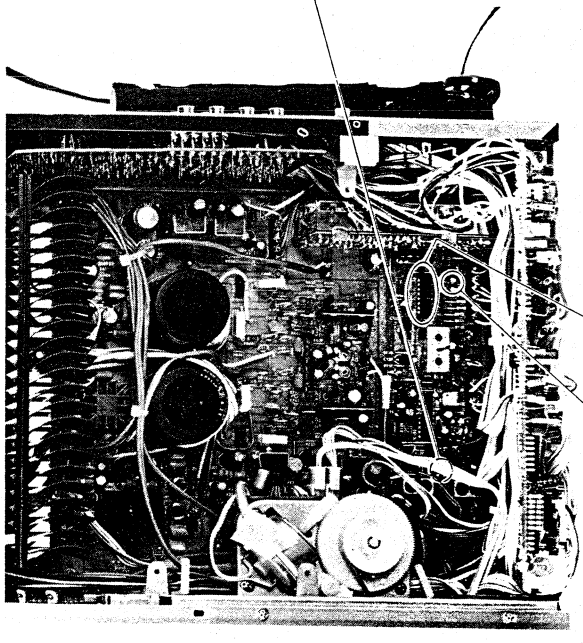


Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Mode: Stereo
Modulation:
Audio, Sub-channel (400 Hz): 16.25 kHz deviation
Pilot (19 kHz): 7.5 kHz deviation

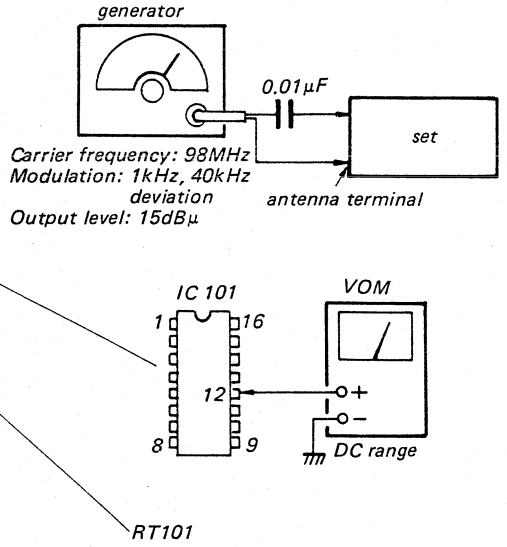
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT103 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT103 for minimum reading.

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.



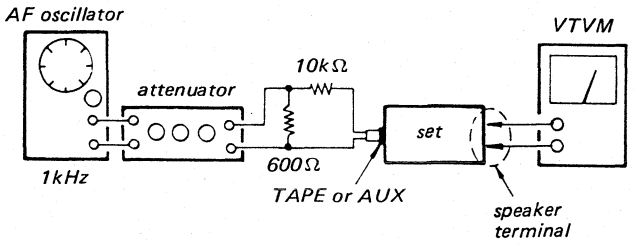
FM Automatic Stop Level Adjustment



Turn RT101 and set it at the point just when VOM indication drops to 0V.

AMPLIFIER SECTION

Level Meter Calibration



1. Turn the VOLUME control knob for 2.83V (1W) reading on the VTVM.
2. Adjust RT702 (L-CH) and RT602 (R-CH) so that the sixth element of LED meter lights up at half the complete brightness.
3. Make sure that the sixth element lights up completely when increasing the output level of the attenuator by 1dB.

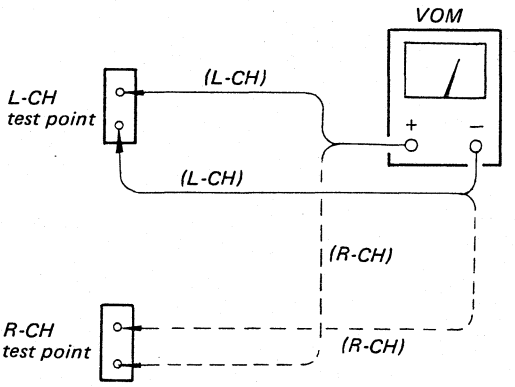
Bias Adjustment

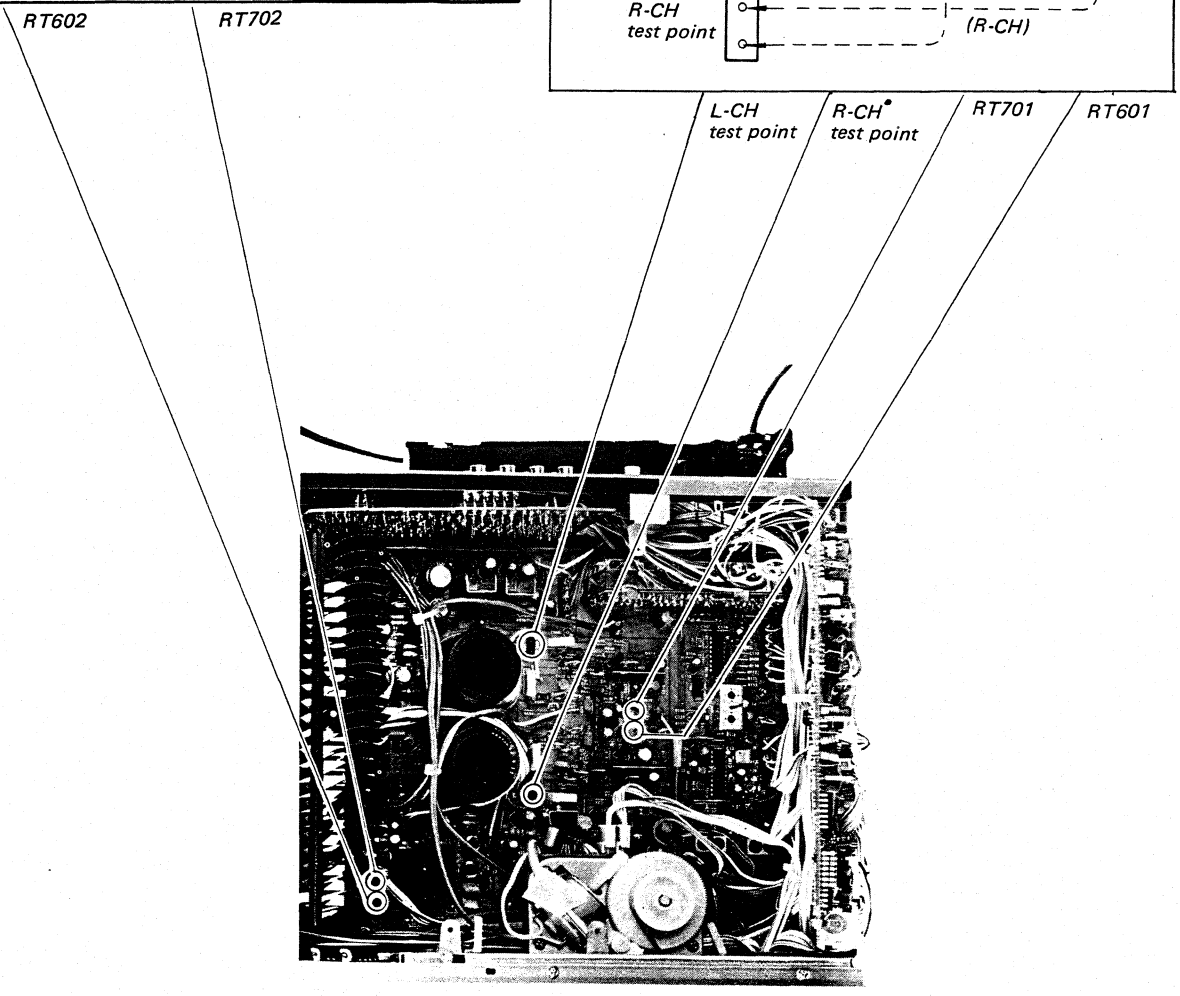
Setting:

VOLUME control: minimum
SPEAKER switch: OFF

Procedure:

Adjust RT601 (L-CH) and RT701 (R-CH) for 26mV DC at each test point.

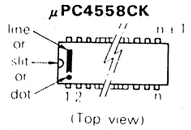




SECTION 4
DIAGRAMS

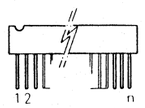
SEMICONDUCTOR LEAD LAYOUTS

LC7000
CX770, A
MSL2312RS
NJM4560D-D
LA1235
LA1245
LA3390
LC7207
LC7258
TC4069μBP
TC9135P
TL489CP
μPC324C
μPC4558CK

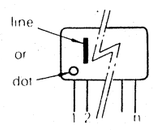


(Top view)

BA6144

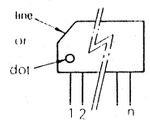


HA12002

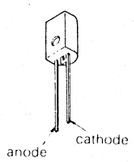


(Marking side view)

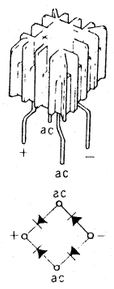
μPC577H



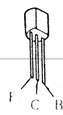
μPC574J



D4BB10
D4BB20



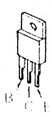
2SA844
2SA1015
2SB740
2SC458A
2SC1364
2SC1815
2SD789



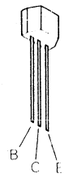
2SA1141
2SA2681

2SB734
2SD774

2SB834
2SD880

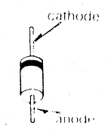


2SC2839

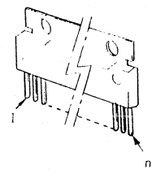


2SK152-2

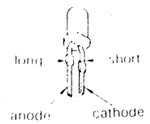
1S1555	10E-2
1S1585	EQA01-05, R
1S2076	EQA01-10
1S2076A	EQA01-10R
1S2471VE	EQA01-11R
1S2473	EQA01-11Z
1SS53	EQA01-15, R
1SS119	EQA01-16, R
1SS120	EQB01-10
1T22A,M	IT26



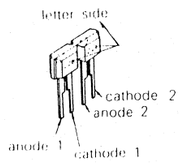
CX20007-1



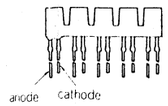
GL-3PR5



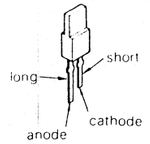
KV1226



LT3001N
SLP252B-06



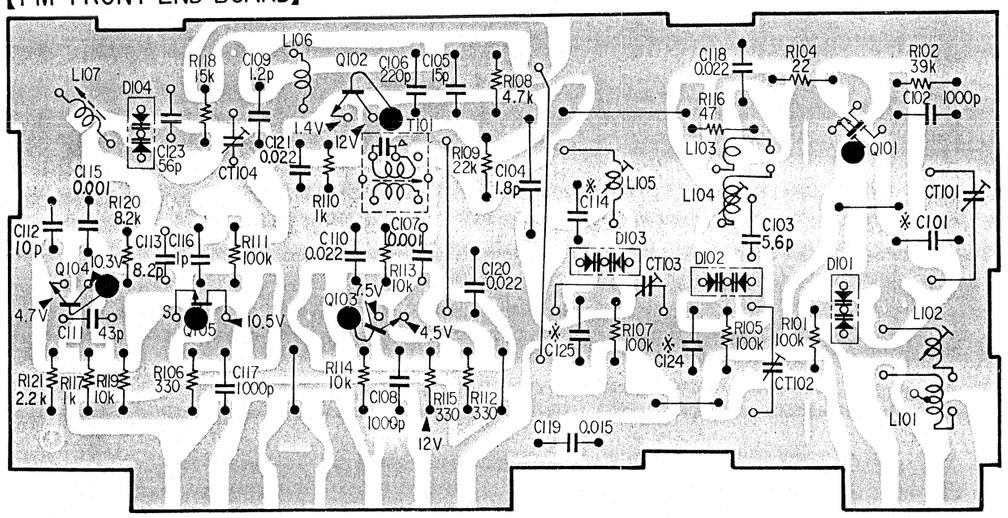
GL-9PR9



A B C D

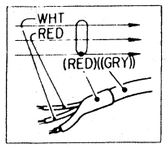
4-1. MOUNTING DIAGRAM

【FM FRONT-END BOARD】



Note:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- [ ]— : indicates side identified with part number.
- : component-side pattern.
- : B + pattern
- : B – pattern
- : signal path
- : L-CH signal path
- : R-CH signal path

4-2. MOUNTING DIAGRAM

– Conductor Side –

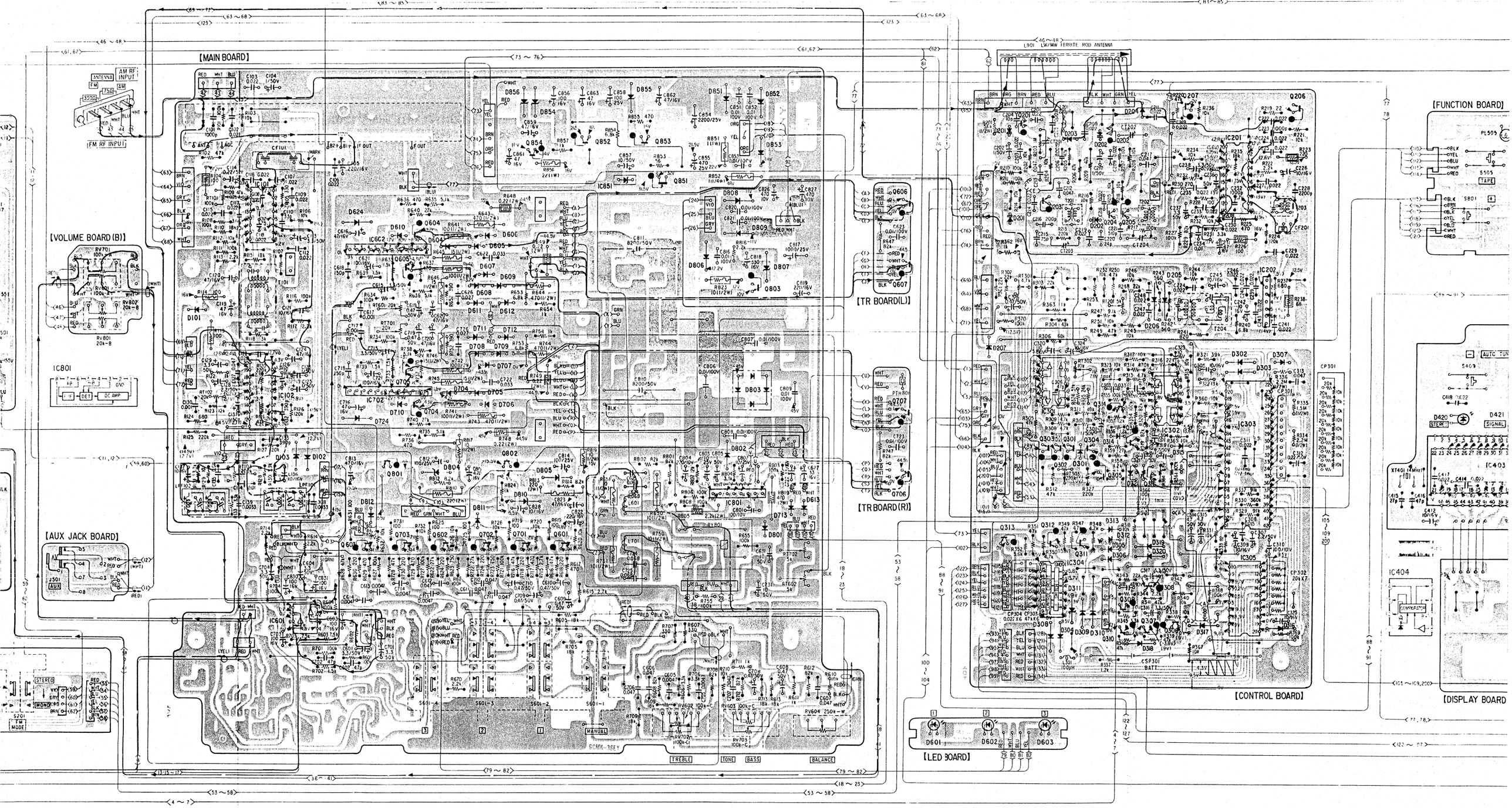
See page 28 for semiconductor lead layouts and note.

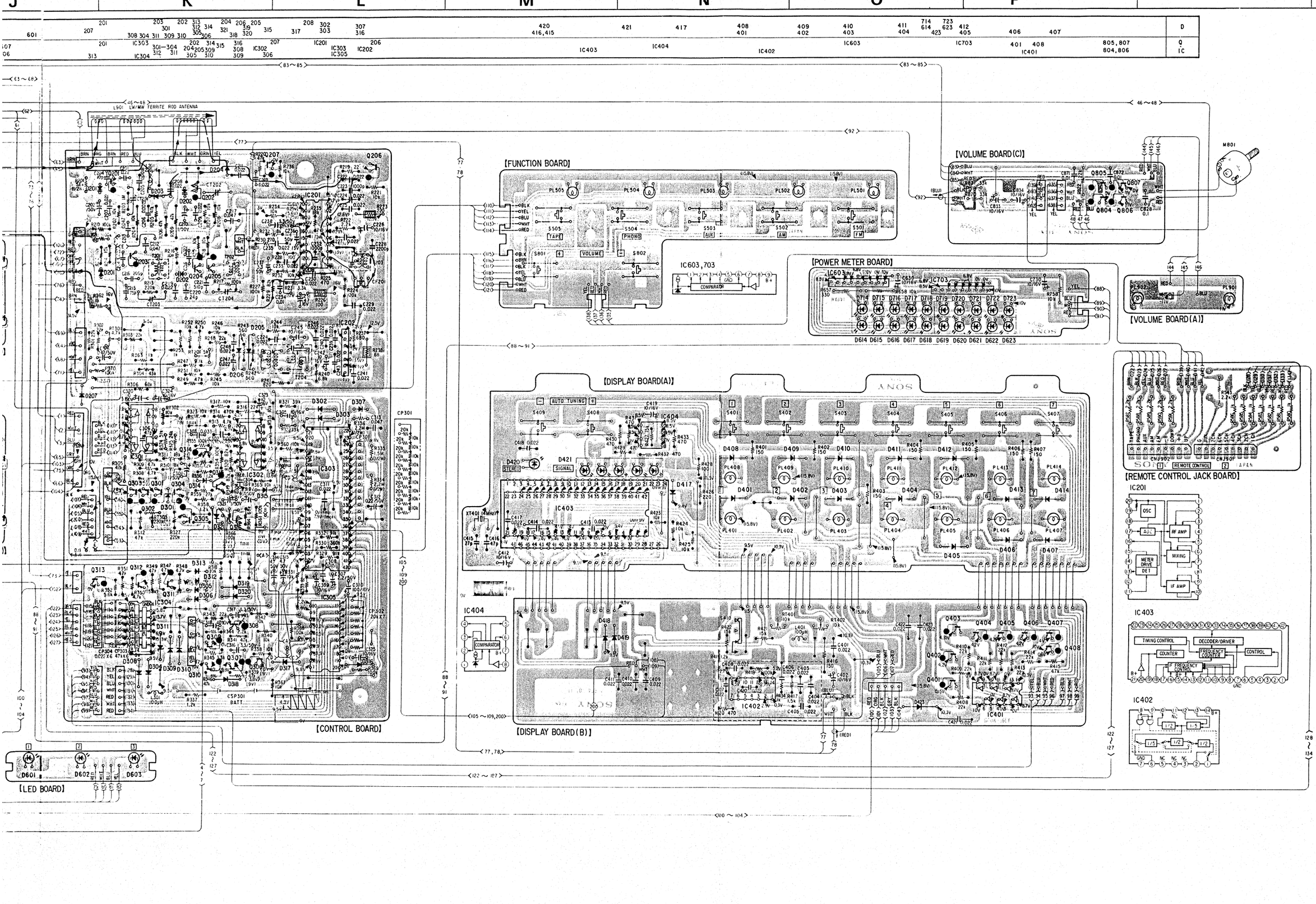
| | | |

E F G H I J K L M

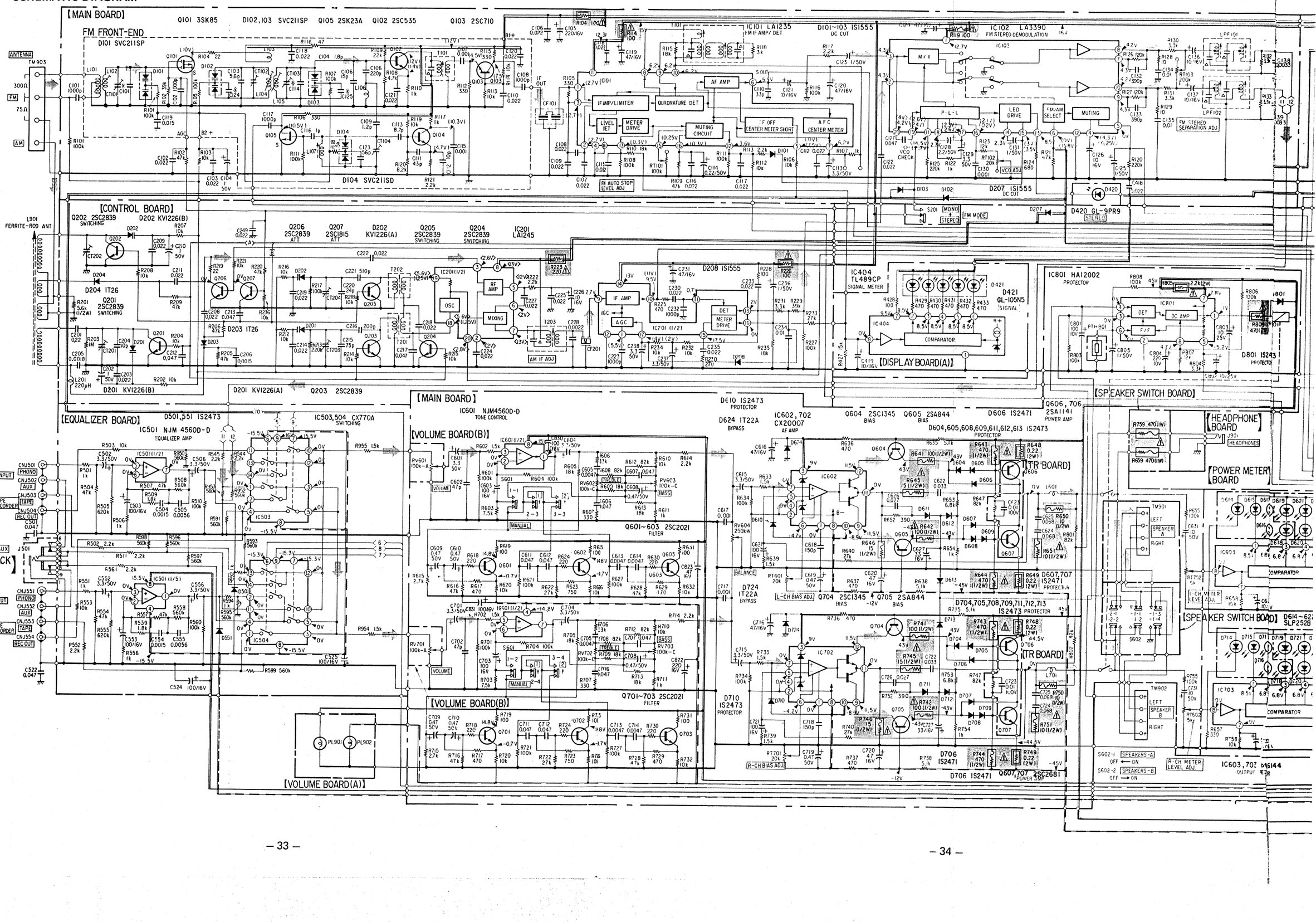
101 102,103 624 724 812 610 710 604 704 804 605 705 ~609,611,612 709,711,712,811 856,854 810 805 855 806 851 802 808 809 825 853 803 807 801 713,613 601 201 207 203 301 202 313 312 314 305 204 206 205 321 39 318 320 315 208 302 303 317 307 316 308 304 311 309 310 306 420 416,415

IC101 IC102 IC601 IC602,604,605 IC702,704,705 IC502 603,801,703,602,702,802,701,601 854 852 IC851 853 851 803 IC801 606,607 707,706 201 313 IC303 301~304 312 311 202 314 315 204 205 309 305 310 316 308 309 207 IC302 306 IC201 206 IC304 IC303 IC305 IC202




L501 LW/MW FERRITE ROD ANTENNA
【CONTROL BOARD】
【FUNCTION BOARD】
【VOLUME BOARD(C)】
【POWER METER BOARD】
【VOLUME BOARD(A)】
【DISPLAY BOARD(A)】
【DISPLAY BOARD(B)】
【REMOTE CONTROL JACK BOARD】
【LED BOARD】
IC603,703
IC404
IC201
IC403
IC402
M801
CP301
CSP301
BATT
D601
D602
D603
PL901
PL902
CNJ902
CNJ901
REMOTE CONTROL
JAPAN
OSC
AGC
RF AMP
METER DRIVE DET
MIXING
IF AMP
TIMING CONTROL
DECODER/DRIVER
COUNTER
FREQUENCY COUNTER
CONTROL
IF FREQUENCY COUNTER
COMPARATOR

4-3. SCHEMATIC DIAGRAM



F G H I J K L M

[CONTROL BOARD]

[DISPLAY BOARD(A)·(B)]

[DISPLAY BOARD(A)]

[SPEAKER SWITCH BOARD]

[HEADPHONE BOARD]

[POWER METER BOARD]

[TR BOARD]

[TR BOARD]

[TR BOARD]

[MAIN BOARD]

[MAIN BOARD]

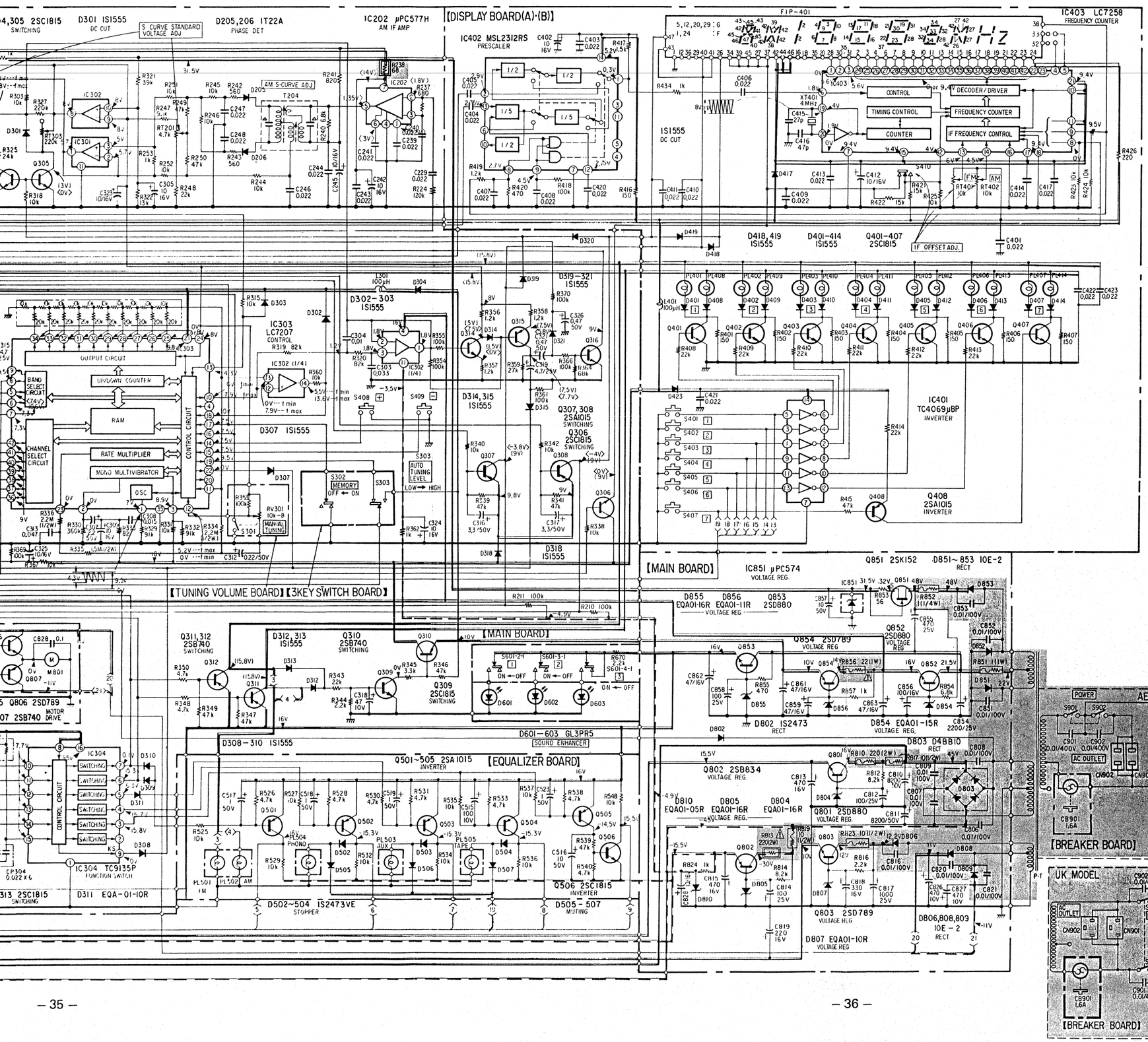
[TUNING VOLUME BOARD] [3KEY SWITCH BOARD]

[VOLUME BOARD(C)]

[FUNCTION BOARD]

[EQUALIZER BOARD]

J K L M N O P



Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation.
- : adjustment for repair.
- ——: B+ bus.
- — — —: B- bus.
- : Signal path
- Readings are taken under no-signal conditions.

( ) : FM
< > : AM
No mark: FM, CH-1

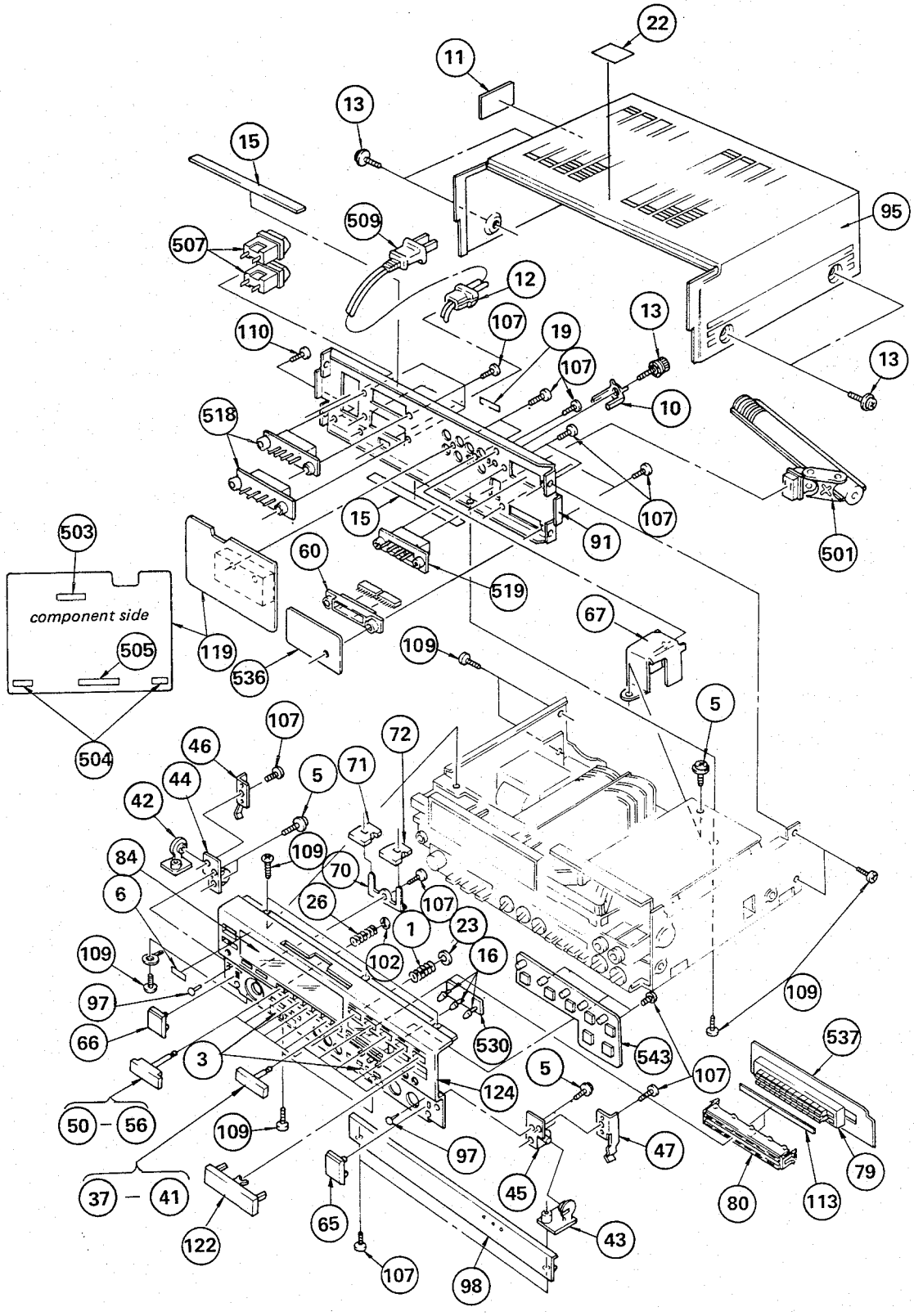
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- **Switch**

Ref. No.	Switch	Position
S201	FM MODE	STEREO
S301	MANUAL TUNING	—
S302	MEMORY	OFF
S303	AUTO TUNING LEVEL	HIGH
S401~407	PRESET TUNING	1
S408	AUTO TUNING UP	—
S409	AUTO TUNING DOWN	—
S410	COUNTER OFFSET	OFF
S501~505	FUNCTION	FM
S601	SOUND ENHANCER	MANUAL
S602	SPEAKERS	A
S801	VOLUME UP	—
S802	VOLUME DOWN	—
S901	POWER	ON

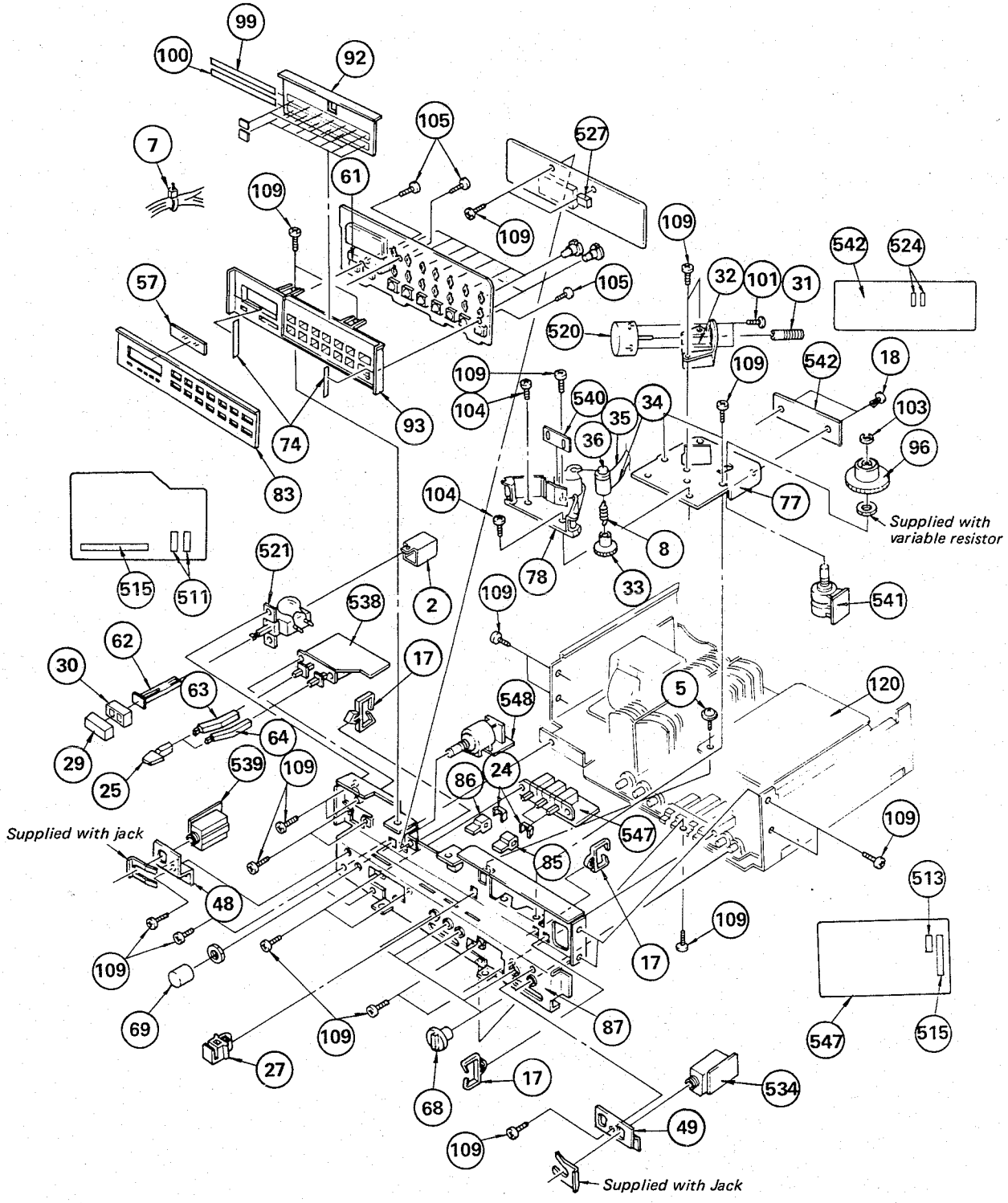
Note: Voltages are measured with a VOM (50kΩ/V)

SECTION 5
EXPLODED VIEWS AND PARTS LIST

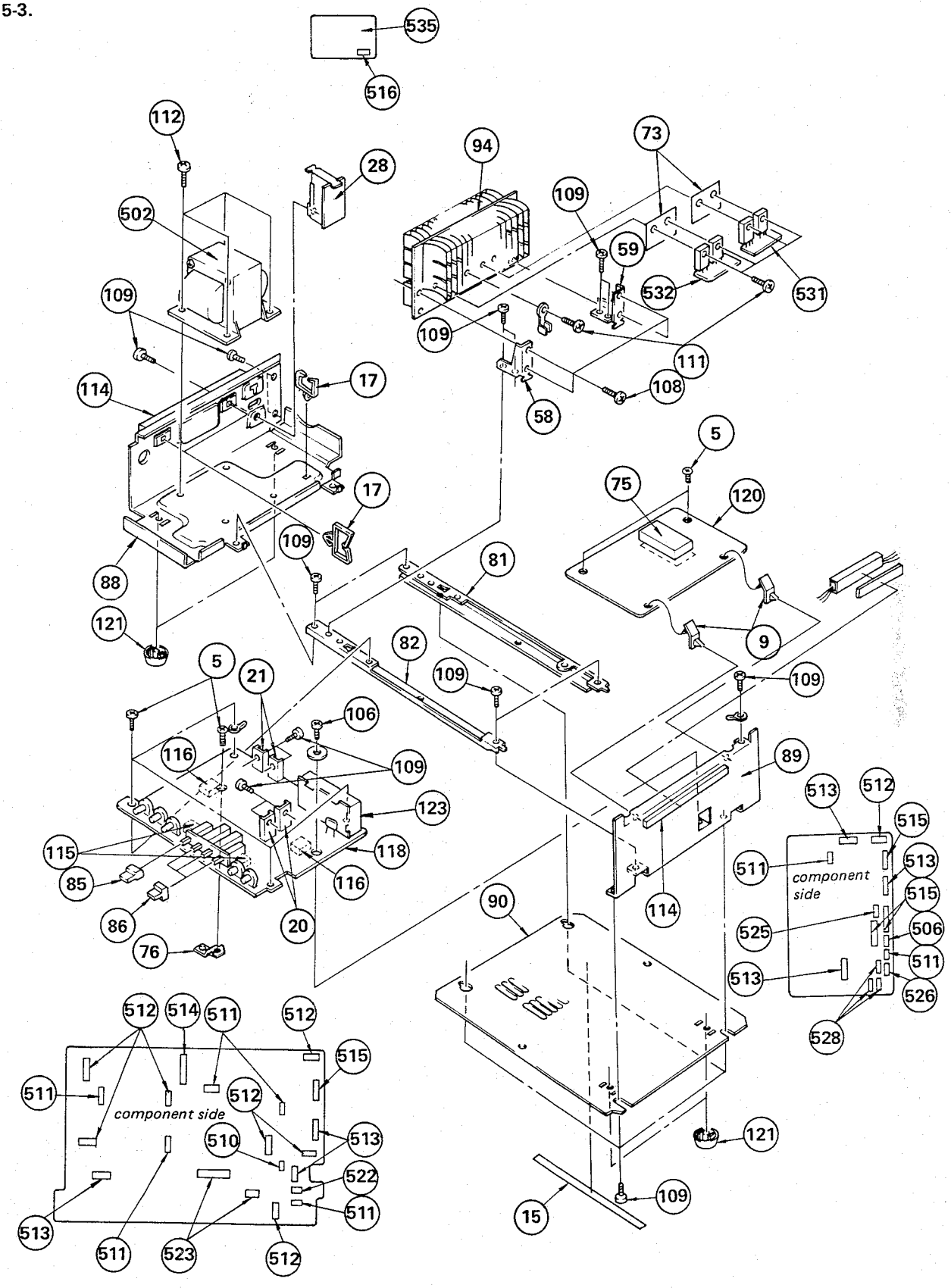
5-1.



5-2.


Supplied with variable resistor
Supplied with jack
Supplied with Jack

5-3.



5-4. PARTS LIST

GENERAL SECTION

No.	Part No.	Description
1	3-434-240-00	SPRING, COMPRESSION
2 ⚠	3-559-001-00	COVER, POWER SWITCH
3	3-568-749-00	CUSHION, ECM
4	.....	
5	3-701-589-00	SCREW, SELF-TAPPING
6	3-701-690-00	(UK)...LABEL, MADE IN JAPAN
7	3-701-748-00	CLAMP
8	3-701-788-XX	SPRING, TENSION
9 ♦	3-701-832-00	HINGE, CIRCUIT BOARD (94V-2)
10	3-701-993-00	SPACER, TERMINAL
11	3-703-079-00	(UK)...LABEL, SUB CAUTION
12	3-703-244-00	BUSHING, CORD
13	3-703-354-11	SCREW (OS), CASE, CLAW
14	3-706-165-00	SCREW
15	3-831-441-XX	CUSHION, FELT
16	3-886-569-00	TUBE, RUBBER
17	4-804-157-00	HOLDER, WIRE
18	4-812-134-00	RIVET, NYLON, 3.5
19 ♦	4-844-449-00	LABEL, SERIAL NUMBER
20 ♦	4-854-790-00	HEAT SINK
21 ♦	4-857-562-00	HEAT SINK, TR
22	4-861-045-00	LABEL, CAUTION
23	4-862-338-00	RING, STOPPER
24	4-864-307-00	RING
25	4-864-410-11	KNOB (4X10), SQUARE
26	4-866-652-00	SPRING, COMPRESSION
27 ♦	4-866-719-00	HOLDER, PCB
28 ♦	4-868-906-00	BRACKET, BREAKER
29	4-871-322-01	CAP, POWER KNOB
30	4-871-323-00	BASE, POWER KNOB
31	4-874-004-00	SHAFT, WORM
32 ♦	4-874-005-00	BRACKET, MOTOR
33	4-874-006-00	GEAR (B), HELICAL
34	4-874-007-00	PULLEY, TAKE-UP, FILM
35	4-874-008-00	FILM (A), LIGHT INTERCEPTION
36 ♦	4-874-009-00	SHAFT, PULLEY
37	4-874-010-01	KNOB, FUNCTION (FM)
38	4-874-010-31	KNOB, FUNCTION (PHONO)
39	4-874-010-41	KNOB, FUNCTION (TAPE)
40	4-874-010-61	KNOB, FUNCTION (MW/LW)
41	4-874-010-81	KNOB, FUNCTION (AUX)
42	4-874-016-00	HOLDER (L), BEARING
43	4-874-017-00	HOLDER (R), BEARING
44	4-874-018-00	BEARING (L)
45	4-874-019-00	BEARING (R)

GENERAL SECTION

No.	Part No.	Description
46	4-874-020-00	SPRING, LEAF (L)
47	4-874-021-00	SPRING, LEAF (R)
48 ♦	4-874-022-00	BRACKET, HP
49 ♦	4-874-023-00	BRACKET, MIC/AUX
50	4-874-024-01	KNOB, PRESET (1)
51	4-874-024-11	KNOB, PRESET (2)
52	4-874-024-21	KNOB, PRESET (3)
53	4-874-024-31	KNOB, PRESET (4)
54	4-874-024-41	KNOB, PRESET (5)
55	4-874-024-51	KNOB, PRESET (6)
56	4-874-024-61	KNOB, PRESET (7)
57	4-874-025-00	FILTER
58 ♦	4-874-028-00	BRACKET (L), HEAT SINK
59 ♦	4-874-029-00	BRACKET (R), HEAT SINK
60	4-874-030-00	SPACER (18P), CONNECTOR
61 ♦	4-874-031-00	HOLDER, LED
62	4-874-032-00	LINK (A)
63	4-874-033-01	LINK (B)
64	4-874-033-11	LINK (B)
65	4-874-034-00	LID (R), ORNAMENTAL
66	4-874-035-00	LID (L), ORNAMENTAL
67 ♦	4-874-036-00	BRACKET (C), PC BOARD
68	4-874-038-00	KNOB, R (DIA.16)
69	4-874-039-00	KNOB, MANUAL
70	4-874-040-00	SPRING, LEAF
71	4-874-041-01	KNOB, AUTO TUNING
72	4-874-041-11	KNOB, AUTO TUNING
73	4-874-042-00	SHEET, INSULATING
74	4-874-044-00	PLATE, SIDE
75 ♦	4-874-045-00	CASE (A), SHIELD
76 ♦	4-874-046-00	BRACKET (D), PC BOARD
77 ♦	4-874-047-00	CHASSIS, CONTROL, MOTOR
78 ♦	4-874-048-00	BEARING (MAIN)
79 ♦	4-874-049-00	MOLD, POSITIONING, LED, POWER
80	4-874-050-00	HOLDER, LED, POWER
81 ♦	4-874-052-00	BRACKET (A), PC BOARD
82 ♦	4-874-053-00	BRACKET (B), PC BOARD
83	4-874-054-00	PLATE (A), ORNAMENTAL
84	4-874-056-00	WINDOW, FRONT
85	4-874-058-01	KNOB, SQUARE (3X14) (GRY)
86	4-874-058-11	KNOB, SQUARE (3X14) (BLU)
87 ♦	4-874-059-00	PANEL, SUB
88 ♦	4-874-060-00	PLATE (L), SIDE
89 ♦	4-874-061-00	PLATE (R), SIDE
90 ♦	4-874-062-00	PLATE, BOTTOM

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

COILS
- MMH : mH, UH : μH

GENERAL SECTION

No.	Part No.	Description
91	;4-874-063-31	(AEP)...PLATE, JACK
91	;4-874-063-21	(UK)....PLATE, JACK
92	4-874-064-00	HOLDER, INDICATION PLATE
93	;4-874-065-00	HOLDER, LAMP
94	;4-874-067-00	HEAT SINK (LARGE)
95	4-874-068-00	COVER, TOP
96	4-874-069-00	GEAR (A)
97	4-874-070-00	GUIDE, LID
98	4-874-071-21	LID
99	4-874-079-01	PLATE, INDICATION,STATION NAME
100	4-874-079-11	PLATE, INDICATION,STATION NAME
101	7-621-259-25	SCREW +P 2.6X4
102	7-624-104-04	STOP RING 2.0, TYPE -E
103	7-624-106-04	STOP RING 3.0, TYPE -E
104	7-682-145-01	SCREW +P 3X4
105	7-685-146-11	SCREW +P 3X8 TYPE2 NON-SLIT
106	7-685-645-71	SCREW +BVTP 3X6 TYPE2 SLIT
107	7-685-646-19	SCREW +BVTP 3X8 TYPE2 N-S
108	7-685-646-21	SCREW +BVTP 3X8 TYPE2 SLIT
109	7-685-871-01	SCREW +BVTT 3X6
110	7-685-871-09	SCREW +BVTT 3X6
111	7-688-646-21	SCREW +BVTT 3X12 TYPE2 SLIT
112	7-685-880-01	SCREW +BVTT 4X6
113	9-911-815-01	CUSHION (M)
114	9-911-840-XX	CUSHION (A)
115	9-911-841-XX	CUSHION
116	9-911-842-XX	CUSHION (F)
117	A-4332-400-A	PANEL ASSY, REAR
118	;A-4351-254-A	MOUNTED PCB, MAIN
119	;A-4358-087-A	MOUNTED PCB (W), EQ
120	;A-4375-148-A	MOUNTED PCB, CONTROL
121	X-4864-303-0	FOOT ASSY
122	X-4874-001-0	KNOB ASSY, CONTROL
123	A-4344-024-A	FRONT-END, FM
124	X-4874-010-1	PANEL ASS'Y, FRONT

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
141	1-501-184-00	ANTENNA, FEEDER
142	3-701-360-00	LABEL, TACK
143	3-701-630-00	BAG, POLYETHYLENE
144	3-783-610-11	MANUAL, INSTRUCTION
145	4-873-610-00	SHEET, PROTECTION
146	4-874-075-00	CUSHION (RIGHT)
147	4-874-076-00	CUSHION (LEFT)
148	4-874-078-00	SHEET, PROTECTION, PANEL
149	X-4874-007-0	PLATE ASSY, INDICATION
150	4-874-089-00	INDIVIDUAL CARTON
151	⚠1-551-967-00	(UK)...CORD, POWER

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	1-401-867-21	ANTENNA, FERRITE-ROD (LW/MW)(L901)
502	⚠1-447-020-00	TRANSFORMER, POWER (T901)
503	;1-508-803-13	U TYPE BASE POST
504	;1-508-810-00	14MM BASE POST
505	;1-508-812-00	BASE POST (14MM) 5P
506	;1-508-994-00	PIN, CONNECTOR
507	⚠1-526-636-00	(UK)...OUTLET, AC (CN901,902)
507	⚠1-526-694-00	(AEP)...OUTLET, AC (CN901,902)
508	.....	
509	⚠1-534-817-XX	(AEP)...CORD, POWER, EURO PLUG(CNP901)
509	⚠1-551-963-00	(UK)...CORD, POWER
510	;1-535-114-00	TERMINAL 1P
511	;1-535-115-00	TERMINAL 2P
512	;1-535-116-00	TERMINAL 3P
513	;1-535-117-00	TERMINAL 4P
514	;1-535-118-00	TERMINAL 5P
515	;1-535-119-00	TERMINAL 6P
516	;1-535-137-00	BASE POST 14MM (10MM PITCH)
517	.....	
518	1-536-627-00	TERMINAL BOARD 4P
519	1-536-627-21	TERMINAL BOARD 4P
520	1-541-163-00	MOTOR (M801)
521	⚠1-553-447-00	SWITCH, PUSH (AC POWER) (S901)
522	;1-560-060-00	PIN, CONNECTOR 2P
523	;1-560-061-00	PIN, CONNECTOR 3P
524	;1-560-062-00	PIN, CONNECTOR 4P
525	;1-560-063-00	PIN, CONNECTOR 5P
526	;1-560-064-00	PIN, CONNECTOR 6P
527	;1-560-070-00	BASE POST
528	;1-560-338-00	PIN, CONNECTOR 7P
529	.....	
530	;1-604-683-00	PC BOARD, LED
531	;1-604-684-00	PC BOARD, TRANSISTOR (L)
532	;1-604-685-00	PC BOARD, TRANSISTOR (R)
533	.....	
534	;1-604-688-00	PC BOARD, AUX.JACK
535	;1-604-689-00	PC BOARD, BREAKER
536	;1-604-690-00	PC BOARD, REMOCON TERMINAL
537	;1-604-691-00	PC BOARD, POWER METER
538	;1-604-693-00	PC BOARD, SPEAKER SWITCH (W)
539	;1-604-694-00	PC BOARD, HEADPHONE
540	;1-604-695-00	PC BOARD, VOLUME (A)
541	;1-604-696-00	PC BOARD, VOLUME (B)
542	;1-604-697-00	PC BOARD, VOLUME (C)
543	;1-604-698-00	PC BOARD, FUNCTION
544	.....	
545	.....	
546	.....	
547	;1-604-702-00	PC BOARD, 3 KEY SWITCH
548	;1-604-703-00	PC BOARD, TUNING VOLUME

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- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

COILS
- MMH : mH, UH : μH

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C220	1-102-672-00	CERAMIC	24PF	5%	50V
C806 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C807 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C808 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C809 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C810	1-125-230-00	ELECT(BLOCK)	8200MF	20%	50V
C811	1-125-230-00	ELECT(BLOCK)	8200MF	20%	50V
C816 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C820 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C821 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C851 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C852 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C853 ⚠	1-108-377-00	MYLAR	0.01	10%	100V
C901 ⚠	1-161-744-00	CERAMIC	0.01		
CB901 ⚠	1-532-534-00	CIRCUIT BREAKER			
CF101	1-527-277-91	FILTER, SOLID STATE	10.70MHZ		
CF201	1-527-277-91	FILTER, SOLID STATE			
CF201	1-527-599-00	FILTER, MECHANICAL			
CNJ501	1-507-728-00	JACK, PIN 4P			
CNJ502	1-507-728-00	JACK, PIN 4P			
CNJ503	1-507-629-11	JACK, PIN (4P)			
CNJ504	1-507-629-11	JACK, PIN (4P)			
CNJ551	1-507-728-00	JACK, PIN 4P			
CNJ552	1-507-728-00	JACK, PIN 4P			
CNJ553	1-507-629-11	JACK, PIN (4P)			
CNJ554	1-507-629-11	JACK, PIN (4P)			
CNJ901 ♦	1-560-263-00	CONNECTOR PIN 9P			
CNJ902 ♦	1-560-263-00	CONNECTOR PIN 9P			
CP301	1-235-035-00	ENCAPSULATED COMPONENT			
CP302	1-231-659-00	COMPOSITION CIRCUIT BLOCK			
CP303	1-232-022-00	COMPOSITION CIRCUIT BLOCK			
CP304	1-232-033-00	COMPOSITION CIRCUIT BLOCK			
CSP301	1-528-090-00	BATTERY,STORAGE,NICKEL CADMIUM			
CT201	1-141-180-00	CAP,TRIMMER			
CT202	1-141-180-00	CAP,TRIMMER			
CT203	1-141-180-00	CAP,TRIMMER			
CT204	1-141-180-00	CAP,TRIMMER			
D101	8-719-815-55	DIODE 1S1555			
D102	8-719-815-55	DIODE 1S1555			
D103	8-719-815-55	DIODE 1S1555			
D201	8-719-912-27	DIODE KV1226			
D202	8-719-912-27	DIODE KV1226			
D203	8-712-600-00	DIODE 1T26			
D204	8-712-600-00	DIODE 1T26			
D205	8-719-422-21	DIODE 1T22AM			
D206	8-719-422-21	DIODE 1T22AM			
D207	8-719-815-55	DIODE 1S1555			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D208	8-719-815-55	DIODE 1S1555
D301	8-719-815-55	DIODE 1S1555
D302	8-719-815-55	DIODE 1S1555
D303	8-719-815-55	DIODE 1S1555
D304	8-719-815-55	DIODE 1S1555
D305	8-719-815-55	DIODE 1S1555
D306	8-719-815-55	DIODE 1S1555
D307	8-719-815-55	DIODE 1S1555
D308	8-719-815-55	DIODE 1S1555
D309	8-719-815-55	DIODE 1S1555
D310	8-719-815-55	DIODE 1S1555
D312	8-719-815-55	DIODE 1S1555
D313	8-719-815-55	DIODE 1S1555
D314	8-719-815-55	DIODE 1S1555
D315	8-719-815-55	DIODE 1S1555
D316	8-719-815-55	DIODE 1S1555
D317	8-719-815-55	DIODE 1S1555
D318	8-719-815-55	DIODE 1S1555
D319	8-719-815-55	DIODE 1S1555
D320	8-719-815-55	DIODE 1S1555
D321	8-719-815-55	DIODE 1S1555
D401	8-719-815-55	DIODE 1S1555
D402	8-719-815-55	DIODE 1S1555
D403	8-719-815-55	DIODE 1S1555
D404	8-719-815-55	DIODE 1S1555
D405	8-719-815-55	DIODE 1S1555
D406	8-719-815-55	DIODE 1S1555
D407	8-719-815-55	DIODE 1S1555
D408	8-719-815-55	DIODE 1S1555
D409	8-719-815-55	DIODE 1S1555
D410	8-719-815-55	DIODE 1S1555
D411	8-719-815-55	DIODE 1S1555
D412	8-719-815-55	DIODE 1S1555
D413	8-719-815-55	DIODE 1S1555
D414	8-719-815-55	DIODE 1S1555
D417	8-719-815-55	DIODE 1S1555
D418	8-719-815-55	DIODE 1S1555
D419	8-719-815-55	DIODE 1S1555
D420	8-719-909-18	DIODE GL-9PR9
D421	1-806-062-31	DIODE (LED BLOCK) LT-3001N
D423	8-719-815-55	DIODE 1S1555
D501	8-719-815-55	DIODE 1S1555
D502	8-719-815-55	DIODE 1S1555
D503	8-719-815-55	DIODE 1S1555
D504	8-719-815-55	DIODE 1S1555
D505	8-719-815-55	DIODE 1S1555
D506	8-719-815-55	DIODE 1S1555
D507	8-719-815-55	DIODE 1S1555
D551	8-719-815-55	DIODE 1S1555
D601	8-719-903-05	DIODE (LED) GL3PR5

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CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

COILS
- MMH : mH, UH : μH

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D602	8-719-903-05	DIODE (LED) GL3PR5
D603	8-719-903-05	DIODE (LED) GL3PR5
D604	8-719-815-55	DIODE 1S1555
D605	8-719-815-55	DIODE 1S1555
D606	8-719-815-85	DIODE 1S1585
D607	8-719-815-85	DIODE 1S1585
D608	8-719-815-55	DIODE 1S1555
D609	8-719-815-55	DIODE 1S1555
D610	8-719-815-55	DIODE 1S1555
D611	8-719-815-55	DIODE 1S1555
D612	8-719-815-55	DIODE 1S1555
D613	8-719-815-55	DIODE 1S1555
D614	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D615	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D616	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D617	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D618	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D619	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D620	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D621	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D622	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D623	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D624	8-719-422-21	DIODE 1T22AM
D704	8-719-815-55	DIODE 1S1555
D705	8-719-815-55	DIODE 1S1555
D706	8-719-815-85	DIODE 1S1585
D707	8-719-815-85	DIODE 1S1585
D708	8-719-815-55	DIODE 1S1555
D709	8-719-815-55	DIODE 1S1555
D710	8-719-815-55	DIODE 1S1555
D711	8-719-815-55	DIODE 1S1555
D712	8-719-815-55	DIODE 1S1555
D713	8-719-815-55	DIODE 1S1555
D714	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D715	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D716	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D717	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D718	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D719	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D720	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D721	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D722	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D723	8-719-925-26	DIODE (LED BLOCK) SLP-252B-06
D724	8-719-422-21	DIODE 1T22AM
D801	8-719-815-55	DIODE 1S1555
D802 ⚠	8-719-815-55	DIODE 1S1555
D803 ⚠	8-719-504-01	DIODE D4BB10
D804	8-719-931-16	DIODE EQA01-16
D805	8-719-931-16	DIODE EQA01-16
D806 ⚠	8-719-200-02	DIODE 10E-2

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D807	8-719-931-10	DIODE EQB01-10
D808 ⚠	8-719-200-02	DIODE 10E-2
D809 ⚠	8-719-200-02	DIODE 10E-2
D810	8-719-936-05	DIODE EQA01-05
D811	8-719-815-55	DIODE 1S1555
D812	8-719-815-55	DIODE 1S1555
D851 ⚠	8-719-200-02	DIODE 10E-2
D852 ⚠	8-719-200-02	DIODE 10E-2
D853 ⚠	8-719-200-02	DIODE 10E-2
D854	8-719-931-15	DIODE EQA01-15
D855	8-719-931-16	DIODE EQA01-16
D856	8-719-930-11	DIODE EQA01-11Z
FIP401	1-519-225-00	INDICATOR TUBE, FLUORESCENT
IC101	8-759-812-35	IC LA1235
IC102	8-759-833-90	IC LA3390
IC201	8-759-812-45	IC LA1245
IC202	8-759-157-70	IC UPC577H
IC301	8-759-132-40	IC UPC324C
IC302	8-759-132-40	IC UPC324C
IC303	8-759-872-07	IC LC7207
IC304	8-759-291-35	IC TC9135P
IC305	8-759-870-	IC LC7000
IC401	8-759-240-69	IC TC4069UBP
IC402	8-759-913-12	IC MSL2312RS
IC403	8-759-872-58	IC LC7258
IC404	8-759-904-89	IC TL489CP
IC501	8-759-745-61	IC NJM4560D-D
IC503	8-757-700-00	IC CX-770
IC504	8-757-700-00	IC CX-770
IC601	8-759-745-61	IC NJM4560D-D
IC602	8-759-100-03	IC CX20007
IC603	8-759-961-44	IC BA6144
IC702	8-759-100-03	IC CX20007
IC703	8-759-961-44	IC BA6144
IC801	8-759-320-02	IC HA12002
IC851	8-759-157-40	IC UPC574J-G
J501	1-507-735-00	JACK (LARGE TYPE)
J901	1-507-569-00	JACK
L201	1-407-173-XX	MICRO INDUCTOR 220UH
L301	1-407-169-XX	MICRO INDUCTOR 100UH
L401	1-407-169-XX	MICRO INDUCTOR 100UH
L601 ♦	1-420-372-00	COIL, AIRE CORE
L701 ♦	1-420-372-00	COIL, AIRE CORE
LPF101	1-231-984-00	FILTER, LOW PASS
LPF102	1-231-984-00	FILTER, LOW PASS

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COILS
- MMH : mH, UH : μH

ELECTRICAL PARTS

Ref.No.	Part No.	Description
PL401	1-518-456-00	LAMP, PILOT
PL402	1-518-456-00	LAMP, PILOT
PL403	1-518-456-00	LAMP, PILOT
PL404	1-518-456-00	LAMP, PILOT
PL405	1-518-456-00	LAMP, PILOT
PL406	1-518-456-00	LAMP, PILOT
PL407	1-518-456-00	LAMP, PILOT
PL408	1-518-457-00	LAMP, PILOT
PL409	1-518-457-00	LAMP, PILOT
PL410	1-518-457-00	LAMP, PILOT
PL411	1-518-457-00	LAMP, PILOT
PL412	1-518-457-00	LAMP, PILOT
PL413	1-518-457-00	LAMP, PILOT
PL414	1-518-457-00	LAMP, PILOT
PL501	1-518-459-00	LAMP, PILOT
PL502	1-518-459-00	LAMP, PILOT
PL503	1-518-459-00	LAMP, PILOT
PL504	1-518-459-00	LAMP, PILOT
PL505	1-518-459-00	LAMP, PILOT
PL901	1-518-458-00	LAMP, PILOT
PL902	1-518-458-00	LAMP, PILOT
PTH801	1-800-427-00	POSISTOR
Q201	8-729-883-92	TRANSISTOR 2SC2839
Q202	8-729-883-92	TRANSISTOR 2SC2839
Q203	8-729-883-92	TRANSISTOR 2SC2839
Q204	8-729-883-92	TRANSISTOR 2SC2839
Q205	8-729-883-92	TRANSISTOR 2SC2839
Q206	8-729-883-92	TRANSISTOR 2SC2839
Q207	8-729-663-47	TRANSISTOR 2SC1364
Q301	8-729-663-47	TRANSISTOR 2SC1364
Q302	8-729-663-47	TRANSISTOR 2SC1364
Q303	8-729-663-47	TRANSISTOR 2SC1364
Q304	8-729-663-47	TRANSISTOR 2SC1364
Q305	8-729-663-47	TRANSISTOR 2SC1364
Q306	8-729-663-47	TRANSISTOR 2SC1364
Q307	8-729-201-52	TRANSISTOR 2SA1015
Q308	8-729-201-52	TRANSISTOR 2SA1015
Q309	8-729-663-47	TRANSISTOR 2SC1364
Q310	8-729-374-02	TRANSISTOR 2SB740
Q311	8-729-374-02	TRANSISTOR 2SB740
Q312	8-729-374-02	TRANSISTOR 2SB740
Q313	8-729-663-47	TRANSISTOR 2SC1364
Q314	8-729-663-47	TRANSISTOR 2SC1364
Q315	8-729-201-52	TRANSISTOR 2SA1015
Q316	8-729-663-47	TRANSISTOR 2SC1364
Q401	8-729-663-47	TRANSISTOR 2SC1364
Q402	8-729-663-47	TRANSISTOR 2SC1364

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
Q403	8-729-663-47	TRANSISTOR 2SC1364				
Q404	8-729-663-47	TRANSISTOR 2SC1364				
Q405	8-729-663-47	TRANSISTOR 2SC1364				
Q406	8-729-663-47	TRANSISTOR 2SC1364				
Q407	8-729-663-47	TRANSISTOR 2SC1364				
Q408	8-729-201-52	TRANSISTOR 2SA1015				
Q501	8-729-201-52	TRANSISTOR 2SA1015				
Q502	8-729-201-52	TRANSISTOR 2SA1015				
Q503	8-729-201-52	TRANSISTOR 2SA1015				
Q504	8-729-201-52	TRANSISTOR 2SA1015				
Q505	8-729-201-52	TRANSISTOR 2SA1015				
Q506	8-729-663-47	TRANSISTOR 2SC1364				
Q601	8-729-300-37	TRANSISTOR 2SC458A				
Q602	8-729-300-37	TRANSISTOR 2SC458A				
Q603	8-729-300-37	TRANSISTOR 2SC458A				
Q604	8-729-300-37	TRANSISTOR 2SC458A				
Q605	8-729-384-47	TRANSISTOR 2SA844				
Q606	8-729-114-11	TRANSISTOR 2SA1141				
Q607	8-729-168-11	TRANSISTOR 2SC2681				
Q701	8-729-300-37	TRANSISTOR 2SC458A				
Q702	8-729-300-37	TRANSISTOR 2SC458A				
Q703	8-729-300-37	TRANSISTOR 2SC458A				
Q704	8-729-300-37	TRANSISTOR 2SC458A				
Q705	8-729-384-48	TRANSISTOR 2SA844				
Q706	8-729-114-11	TRANSISTOR 2SA1141				
Q707	8-729-168-11	TRANSISTOR 2SC2681				
Q801	8-729-288-02	TRANSISTOR 2SD880				
Q802	8-729-283-42	TRANSISTOR 2SB834				
Q803	8-729-177-43	TRANSISTOR 2SD774				
Q804	8-729-663-47	TRANSISTOR 2SC1364				
Q805	8-729-384-48	TRANSISTOR 2SA844				
Q806	8-729-177-43	TRANSISTOR 2SD774				
Q807	8-729-374-02	TRANSISTOR 2SB740				
Q851	8-765-422-00	TRANSISTOR 2SK152-2				
Q852	8-729-288-02	TRANSISTOR 2SD880				
Q853	8-729-288-02	TRANSISTOR 2SD880				
Q854	8-729-177-43	TRANSISTOR 2SD774				
R104	1-247-107-00	CARBON	100	5%	1/4W	F
R114	1-247-107-00	CARBON	100	5%	1/4W	F
R119	1-247-107-00	CARBON	100	5%	1/4W	F
R201	1-244-891-00	CARBON	5.6K	5%	1/2W	
R223	1-247-115-00	CARBON	220	5%	1/4W	F
R226	1-247-107-00	CARBON	100	5%	1/4W	F
R238	1-247-103-00	CARBON	68	5%	1/4W	F
R641 ⚠	1-247-216-00	CARBON	100	5%	1/2W	F
R642 ⚠	1-247-216-00	CARBON	100	5%	1/2W	F
R643 ⚠	1-247-232-00	CARBON	470	5%	1/2W	F

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since thev are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:□□F.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

COILS
- MMH : mH, UH : μH

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R644 ⚠	1-247-232-00	CARBON	470	5%	1/2W	F
R645 ⚠	1-247-196-00	CARBON	15	5%	1/2W	F
R646 ⚠	1-247-196-00	CARBON	15	5%	1/2W	F
R648 ⚠	1-217-151-00	RES, METAL PLATE	0.22			
R649 ⚠	1-217-151-00	RES, METAL PLATE	0.22			
R650 ⚠	1-247-192-00	CARBON	10	5%	1/2W	F
R651 ⚠	1-247-192-00	CARBON	10	5%	1/2W	F
R659 ⚠	1-213-139-00	METAL	470	5%	1W	F
R741 ⚠	1-247-216-00	CARBON	100	5%	1/2W	F
R742 ⚠	1-247-216-00	CARBON	100	5%	1/2W	F
R743 ⚠	1-247-232-00	CARBON	470	5%	1/2W	F
R744 ⚠	1-247-232-00	CARBON	470	5%	1/2W	F
R745 ⚠	1-247-196-00	CARBON	15	5%	1/2W	F
R746 ⚠	1-247-196-00	CARBON	15	5%	1/2W	F
R748 ⚠	1-217-151-00	RES, METAL PLATE	0.22			
R749 ⚠	1-217-151-00	RES, METAL PLATE	0.22			
R750 ⚠	1-247-192-00	CARBON	10	5%	1/2W	F
R751 ⚠	1-247-192-00	CARBON	10	5%	1/2W	F
R759 ⚠	1-213-139-00	METAL	470	5%	1W	F
R805 ⚠	1-206-672-00	METAL	2.2K	5%	2W	F
R809 ⚠	1-206-656-00	METAL	470	5%	2W	F
R810 ⚠	1-206-648-00	METAL	220	5%	2W	F
R813 ⚠	1-206-648-00	METAL	220	5%	2W	F
R817 ⚠	1-247-192-00	CARBON	10	5%	1/2W	F
R819 ⚠	1-247-192-00	CARBON	10	5%	1/2W	F
R823 ⚠	1-247-192-00	CARBON	10	5%	1/2W	F
R851 ⚠	1-213-036-00	FUSIBLE	1	5%	1W	F
R852 ⚠	1-247-071-00	CARBON	1	5%	1/4W	F
R856 ⚠	1-213-068-00	FUSIBLE	22	5%	1W	F
RT101	1-226-239-00	RES, ADJ, CARBON	100K			
RT102	1-226-237-00	RES, ADJ, CARBON	20K			
RT103	1-226-237-00	RES, ADJ, CARBON	20K			
RT201	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K			
RT301	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K			
RT302	1-224-252-XX	RES, ADJ, METAL GLAZE	10K			
RT303	1-224-256-XX	RES, ADJ, METAL GLAZE	220K			
RT401	1-226-431-00	RES, ADJ, CARBON	10K			
RT402	1-226-431-00	RES, ADJ, CARBON	10K			
RT601	1-226-237-00	RES, ADJ, CARBON	20K			
RT602	1-226-235-00	RES, ADJ, CARBON	5K			
RT701	1-226-237-00	RES, ADJ, CARBON	20K			
RT702	1-226-235-00	RES, ADJ, CARBON	5K			
RV301	1-228-172-00	RES, VAR, CARBON (WITH SW)	10K			
RV601	1-228-219-00	RES, VAR, CARBON	20KX2/100KX2			
RV602	1-228-174-00	RES, VAR, CARBON	100K/100K			
RV603	1-228-174-00	RES, VAR, CARBON	100K/100K			
RV604	1-228-173-00	RES, VAR, CARBON	250K			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV701	1-228-219-00	RES, VAR, CARBON 20KX2/100KX2
RV702	1-228-174-00	RES, VAR, CARBON 100K/100K
RV703	1-228-174-00	RES, VAR, CARBON 100K/100K
RV801	1-228-219-00	RES, VAR, CARBON 20KX2/100KX2
RV802	1-228-219-00	RES, VAR, CARBON 20KX2/100KX2
RY801	1-515-405-00	RELAY
S201	1-553-686-00	SWITCH, PUSH (3 KEY)
S301	1-228-172-00	RES, VAR, CARBON (WITH SW) 10K
S302	1-553-686-00	SWITCH, PUSH (3 KEY)
S303	1-553-686-00	SWITCH, PUSH (3 KEY)
S401	1-552-539-00	SWITCH, KEY BOARD
S402	1-552-539-00	SWITCH, KEY BOARD
S403	1-552-539-00	SWITCH, KEY BOARD
S404	1-552-539-00	SWITCH, KEY BOARD
S405	1-552-539-00	SWITCH, KEY BOARD
S406	1-552-539-00	SWITCH, KEY BOARD
S407	1-552-539-00	SWITCH, KEY BOARD
S408	1-552-539-00	SWITCH, KEY BOARD
S409	1-552-539-00	SWITCH, KEY BOARD
S410	1-552-697-00	SWITCH, LEVER
S501	1-552-539-00	SWITCH, KEY BOARD
S502	1-552-539-00	SWITCH, KEY BOARD
S503	1-552-539-00	SWITCH, KEY BOARD
S504	1-552-539-00	SWITCH, KEY BOARD
S505	1-552-539-00	SWITCH, KEY BOARD
S601	1-553-688-00	SWITCH, PUSH (4 KEY)
S602	1-553-761-00	SWITCH, PUSH (2 KEY)
S801	1-552-539-00	SWITCH, KEY BOARD
S802	1-552-539-00	SWITCH, KEY BOARD
T101	1-404-170-00	TRANSFORMER, IFT
T201	1-405-914-00	COIL, LW OSC
T202	1-405-927-00	COIL, MW OSC
T203	1-409-348-00	COIL, MECHANICAL FILTER
T204	1-404-322-00	TRANSFORMER, AM DISCRIMINATOR
XT401	1-527-533-21	OSCILLATOR, CRYSTAL

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

COILS
- MMH : mH, UH : μH

SONY-STANDARD CAPACITORS, RESISTORS AND SCREWS

ELECTROLYTIC CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one.					
	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (μF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

CAP. (pF)	RATING 50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001μF = 1,000pF

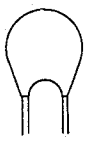
CERAMIC (SEMICONDUCTOR) CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one. 25 VOLT. PART No.	50 VOLT. PART No.	CAP. (μF)	25 VOLT. PART No.	50 VOLT. PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

SONY-STANDARD CAPACITORS, RESISTORS AND SCREWS

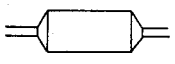
MYLAR CAPACITORS

CAP. (μF)	RATING 50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				



TANTALUM CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one. 3.15 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	25 VOLT. PART No.	35 VOLT. PART No.
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			



TANTALUM CAPACITORS

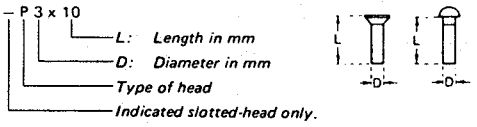
CAP. (μF)	RATING 3 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	35 VOLT. PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

1/4 WATT CARBON RESISTORS

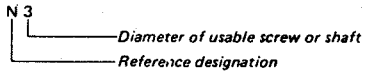
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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SONY

SERVICE MANUAL

3144

AEP Model
UK Model

CORRECTION-1

File this correction with the Service Manual.

☛ : Corrected portions.

Page	Incorrect			Correct	
	No.	Part No.	Description	Part No.	Description
44	Q612	8-765-422-00	Transistor 2SK152-2	8-769-162-00 ☛	Transistor 2SK152-2

9-950-682-91

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Audio Group

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